POSITIONING FACILITY MANAGEMENT:
Informed by Case Investigations in Thailand

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ABSTRACT

All organisations need facilities and services to support and sustain their operations and strategy. Different support arrangements are required in different sectors, at different stages in organisational development and in different countries and cultures. In time, support arrangements need to be modified as circumstances change. Although this issue is of fundamental importance for organisations of all kinds, it has not been adequately researched in any detail. This thesis focuses on the generic issues associated with the selection of appropriate facility management arrangements to support the specific needs of an organisation, with particular reference to the context of developments in Thailand.

The thesis has four main parts. The first part identifies the key factors that need to be considered when positioning and structuring facility management arrangements. This part of the Thesis describes the results from a comprehensive literature review and an investigation to establish the conceptual basis for the research. The second part describes specific case studies of the FM positioning process that were undertaken in five organisations with operations in Thailand, supported by document searches, semi-structured interviews and by direct observations. By undertaking cross-case comparisons, the changing patterns of relationship between organisational characteristics and their FM support arrangements were analysed and the main areas of decision within the FM positioning and repositioning process were identified. The results from these case studies inform the third part of the thesis which profiles the key areas of concern in detail and develops a seven part decision framework, with associated tools, to assist in a systematic process of data collection, option identification, evaluation, prioritisation, selection and implementation of FM support arrangements.

The forth and final part of the Thesis reports on field trials of the proposed positioning process. The trial included a critical examination of the practical applicability, potential use and value of the approach by a sample of independent experts, with their suggestions for the modification and improvement of the prototype decision framework and its tools. The thesis concludes with a detailed analysis of the field trial results, a revised and refined decision framework for Positioning FM, followed by a discussion of future opportunities for the approach and the potential benefits of further research.

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Chapter 1

Introduction

1.1 Background to the Research

It is generally accepted that Facility Management (FM) has an important role in the management of facilities and services, all of which can contribute towards the relative success or the partial failure of an organisation's business. Over the last fifteen to twenty years, facility management has become accepted as one of the basic functions that all organisations need and has been adopted and developed widely around the world (FMA, 2003, Reeves, 2000).

Most FM practices share a common aim of providing support services to the organisation to sustain its business operations and to underpin its strategy. The nature and characteristics of organisations are diverse and are likely to require rather different support arrangements at different times, in different sectors and in different countries and cultures. One of the crucial issues of facility management practice therefore, is how to provide and manage support arrangements to meet the needs of a particular organisation within its context. This seems to be a basic problem for organisations of all kinds. First, how should they select and position facility management arrangement to meet the specific needs of their organisation? Second, what measures should they put in place to review, modify or restructure these support arrangements as circumstances change?

Although these questions are of fundamental importance to all organisations, they do not appear to have been addressed adequately or in any detail. Organisations tend to rely on informal and intuitive decisions or replicate the practice of other organisations through simple benchmarking information where available. Overall, one of two general approaches seems to be adopted. The first is the 'best practice' approach where an organisation looks to find and apply a standard exemplar solution or a set of FM practice arrangements that are thought to be 'ideal'. The second and most commonly adopted approach is 'ad hoc', where an organisation believes that its circumstances are unique and that a specifically tailored solution is necessary on a 'one-off' basis. These two approaches are not mutually exclusive however, best practice solutions can be modified to suit specific circumstances.

The application of these approaches to FM can be considered at two levels: global applications and local applications. The global application of FM is reliant on generic knowledge, proven exemplars and methods, and equivalent levels of expertise, education and training, focusing on FM challenges that are similar and shared around the world. On the other hand, local applications of FM are concerned with specific knowledge, established customs and practices, the available expertise and skill base, and the priorities within a particular set of local circumstances and their cultural context. In any situation, a balance needs to be struck between global and local concerns and between generic and case-specific approaches to FM (Nutt, 2002a). Currently, local issues seem to have become an important concern for many FM practitioners and their organisations in response to the further expansion of globalisation and the standardised practices of multi-national corporations. Here, there is a risk of polarisation between the tendency to move towards globalised and generic FM arrangements on the one hand, and towards local and specific FM solutions, on the other hand. There is a need to be able to discriminate between those parts and aspects of global and generic FM concepts that might be suitable and applicable for specific local practice, and those that are not suitable for local conditions. This leads to the basic question of how to decide on the degree to which generic practices should be adopted or adapted in a particular country or specific set of conditions.

1.2 Facility Management in Thailand

During the last decade, the growth and development of FM practices and associated academic activities have spread to the Asia-Pacific region, particularly as a result of globalisation, the investment programmes of multi-national corporations from the UK and the USA, and the expansion of international associations such as the International Facilities Management Association (IFMA), the Royal Institute of Chartered Surveyors (RICS) and Facility Management Association of Australia (FMA). The development of FM practices and educational activities is particularly advanced in Japan and Hong Kong (Lomas, 1999), and FM is now emerging in other countries such as Korea, Taiwan, Singapore and Thailand. In Thailand, the term 'facility management' was first mentioned and debated in 1997 (Chotipanich, 2004a) and is now becoming recognised more widely, particularly within the fields of building and property management. The title of facility manager was first adopted by the multi-national corporations operating in Thailand, with the introduction of their approaches and procedures for FM that had been developed elsewhere in the world. Recently, the concept of FM has begun to be adopted by many large Thai corporations as they realise the need to manage their facilities and support services more effectively and to resolve current problems, such as the increase of operating expenses and the need to comply with new regulations concerning building safety and energy consumption. Furthermore, the economic conditions and lack of new building investment finance, have forced them to look for ways to manage existing workplaces more intensively and efficiently to increase the utilisation of their physical resources. These issues have raised the awareness of facility management generally and have opened up the opportunities to learn from international practice. As a result, there has been a trend of hiring international FM consultants to assist Thai corporations to establish or reorganise their FM functions, to develop facility policy and strategy and to improve FM practices and procedures. Some have invested in computer-aid facility management programs to assist them in collecting information and building facility databases to underpin these developments.

While the concept of managing facilities and services in support of the core business of an organisation might be new in Thailand, the practice of facility management is not totally new. Traditionally, facilities management practices have existed in relation to some building services and facility maintenance, typically within a central administrative division, an internal building department or a general service division. Here FM practice has involved the provision of a limited range of routine services focusing on operational issues and technical work, serving basic needs within a short-term perspective. Knowledge, skills and techniques have been developed through experience rather than education and training. The existence,

development and value of local knowledge and skills concerning facility management practice cannot therefore be overlooked.

The outsourcing of facility services has become the preferred approach in Thailand, for organisations that need to concentrate on their core businesses and reduce the burden of non-core management functions. It has also tended to replace many of the internal FM operations in order to handle the increasing complexity of the more sophisticated technology of modern building systems. This has contributed to the recent growth of the facility service industry. A survey of facility services[1] conducted in 2001, reported that there were more than six hundred suppliers offering services relevant to facility management, mostly providing basic building and facility services such as cleaning, housekeeping, security, building and landscape maintenance, etc. These suppliers primarily provided labour and specialised skills for facility services under short-term contracts of between one to three years. There were also a small but growing number of FM service specialists, often operating their business under other names such as Corporate Services (Jones Lang Lasalle, Thailand), and Total Facility Services (Prompt Services company limited). Overall, a preliminary study of FM practices found that organisations and the public tended to be more familiar with the term of 'Property Management' rather than 'Facilities Management', with the former title being commonly recognised as the inclusive set of building services found in commercial office buildings and condominiums.

The first FM conference in Thailand[2] was held in 2002. The conference aimed to establish professional coherence and to promote academic and professional developments in the FM field. It was attended by one hundred and thirty representatives from many sectors including FM service providers, property management service providers, property owners, government agencies and universities, etc, indicating an increasing interest and awareness in FM. Feedback showed that most participants intended to adopt or adapt concepts discussed at the conference for use in their organisations, and there was a strong demand for further conferences. However, there is also a weaker side to FM developments in the country. Although the potential contribution of FM is now recognised by most large organisations in the private sector, the importance of facility management and performance is still not appreciated by many local organisations and the governmental sector, where building and support service issues are generally given a low priority. Here the performance of facilities, workplaces and support services is rarely linked to their core objectives and operations. In

[1] 1998-2001 Student reports: Case study of FM practices, term paper for Facility Management Course at Faculty of Architecture, Chulalongkorn University, and A FM Supply Study by the Faculty of Architecture, Chulalongkorn University, presented to CMT company in 2002.
[2] FM Thailand 2002, organised by Faculty of Architecture, Chulalongkorn University, 4-5 July 2002.

addition, the local culture and the legal context may have slowed FM developments and progress. Thailand is well known for its tolerant culture, with a less demanding and less critical approach than many other countries. It is common to find that building users tend to tolerate breakdowns and interruptions to building services and that building owners can tolerate relatively poor conditions and hesitate to spend on facility maintenance and improvements. The current lack of building restrictions concerning their operational use, and the relatively limited health and safety regulations tends to reduce the priority given to facility management concerns.

In summary, FM in Thailand is still at an early stage of development, with practices divided into two general groups. First, there are the local practices that are small in scale, technical and operational. Second, there are the large international practices that have imported and adopted 'best practice' arrangements from the UK, USA and elsewhere. On the one hand, the local practices are only able to provide limited and partial facility services, due to their lack of integrative management viewpoint and skills, while on the other hand, the international practices seem to be excessive and too expensive to meet the local needs. Arguably, both might not represent the 'best' model or an 'appropriate' model for FM practices in Thailand. This is a key challenge to professional FM developments in the country. In addition, FM still needs to establish a distinctive position that differentiates itself from other associated activities particularly in relation to property management and building services management. However, the general potential of FM has begun to be recognised widely. This is indicated by the rapid growth in facility service demands, the interest in FM education in the country and the pending building use regulations, which are raising the profile of facility management. New practice arrangements in the country must be aware of the different circumstances, culture and context of Thailand when they wish to employ management concepts from other countries and regions of the world. While the issue of 'positioning FM' is important in all organisations everywhere, it is of critical importance in countries like Thailand where FM is at a very early stage of development. Here two urgent questions need to be addressed (Nutt, 2002a):

- To what degree can generic FM knowledge and international 'best' practice be imported and adopted within Thailand?
- To what degree should local, customised or alternative FM practices be developed and employed within the Thai context?

1.3 FM Knowledge and Research

In the UK and Europe, there is an on-going debate about whether FM is an emerging profession in its own right (Grimshaw, 1999; 2003), with its own disciplinary base in a new professional area of activity, or whether it is part of a wider multi-discipline coalition of professional concerns. If FM is to develop as a profession, then it will be challenged to build its own knowledge and management skill base (Nutt, 1999; Grimshaw, 1992). Research and innovative practice will be needed to establish a secure body of 'professional' knowledge that consistently advances and develops to support the members of the profession and the public that they serve (McLennan and Nutt, 1992). The need for FM research has been stressed in the UK for many years (Barrett, 1992). FM research is essential to build a knowledge base, methods and data to underpin practice and to develop a specialised management discipline and profession (Grimshaw, 1992; Alexander, 1992; Nutt, 1999). To date, FM practice remains reliant, to a considerable extent, on borrowed concepts and techniques from other disciplinary areas such as business studies, management science and the property professions (Nutt, 1999). It has few secure methods of its own to underpin good practice experience, and lacks the support of practical theory. Furthermore, existing knowledge tends to be poorly disseminated and understood by those in practice, most of whom work out of an operational and technical base.

While to some extent, FM research faces similar problems to management research generally, it may not relate specifically to any particular research ideology or principle and may require a different paradigm than other areas of research (Grimshaw and Cairns, 2000). Its subject of study is socially based and diverse and may require a wide range of ontological and epistemological viewpoints. There are two general types of research approaches that can be applied to the study of FM: generic research and case specific investigations (Nutt, 1999). Generic studies tend to be 'theory-led' involving the systematic investigation of a conceptual position or hypothesis, supported by reliable data, with results validated prior to implementation. They aim to tackle problems that are common and fundamental to all in the field of study and their findings should be able to be implemented widely. On the other hand, the case specific approach refers to studies that focus on the specific problems of a given situation and the individual requirements of the commissioning organisation. They are typically 'practical-led' and can result in short-term improvements and benefits for those that are involved. The combination of these two approaches can develop a body of knowledge for FM that is theoretically sound and practically useful. A research framework for exploring the means for blending the generic knowledge with the local practice has been proposed (Nutt, 2002a; 1999). There is a need to gain in-depth knowledge and understanding about FM

practices in different regions and their relationship with cultural dimensions (Lomas, 1999; Gillard and Yiqun, 1999).

Most seem to agree that FM research should enable practitioners and academics to bridge the gap between the practical knowledge, experience, and expertise of the facility manager, and the needs and concerns of the end-user and their organisations (Nutt, 1992; Grimshaw, 1992; Alexander, 1992) and that it should give emphasis to management rather than technical issues (Barrett, 1992; Nutt, 1992a; 1999). A number of key characteristics of FM research have been suggested (Grimshaw, 1992, Nutt, 1992; 1999; McLennan and Nutt, 1992, Barrett, 1992, Alexander, 1992):

- FM research should be directed primarily at problems relating to, or arising from, the management of the support environment, facility resources and support services, and to innovations across this field.
- Its rationale should centre on supporting and informing management decisions.
- It should be undertaken only in areas which can be investigated rigorously and systematically, concentrating on researchable issues and the manageable aspects of facility performance.
- It should be mainly but not exclusively directed to post-occupancy problems.
- It needs to develop methodologies that are capable of encompassing the human, physical, spatial, environmental, financial and technological dimensions of concern in an integrated way.

1.4 Research Objectives and Research Questions

The research reported in this thesis began with three basic propositions that:

- The selection of an appropriate set of facility management arrangements is essential for the achievement of good facility management practice. However, neither the adoption of a standard 'good practice' position nor a solution that is uniquely tailored to meet the current specific needs and circumstances of an organisation will necessarily be the best. Rather, an adaptive approach that reconciles the specific needs of the organisation and its context with the global 'good practice' experience and generic knowledge and principles of FM, should be adopted.
- In order to support the core operations of an organisation, facility management arrangements need to respond to the specific needs of that organisation and its context. However, although organisations may be within the same region, sector, culture and

context, they can require quite different arrangements for FM practice. There is no single management solution that will suit all circumstances.

- In addition, in order to sustain this support over time, FM practices will need to be reviewed, modified or restructured as organisational requirements and the business environment changes.

These propositions lead to the key questions for the research as follows:

- How should FM policy, scope, role, function, and practice be positioned and structured to support the needs of a given organisation?
- What key factors need to be considered when selecting, positioning and structuring FM support arrangements, policies and practices?
- By what process of consideration and decision should FM arrangements be positioned overall? What criteria and stages of decision-making should be used?

From this theoretical position, the research had four practical objectives:

- To gain insights into the issues that should normally be considered in positioning and structuring FM support arrangements, policies and practices generally, with particular reference to FM developments in Thailand.
- To investigate the degree to which the development of decision frameworks, methods and tools for positioning FM might have practical value.
- To consider the potential benefits and problems of applying these methods and tools in practice.
- To develop and test specific methods for positioning FM.

1.5 Thesis Outline

This chapter has set out the background to the research, its basic propositions, key research questions and main objectives. This thesis consists of ten chapters, as illustrated in Figure 1(1), covering the four main stages of the research.

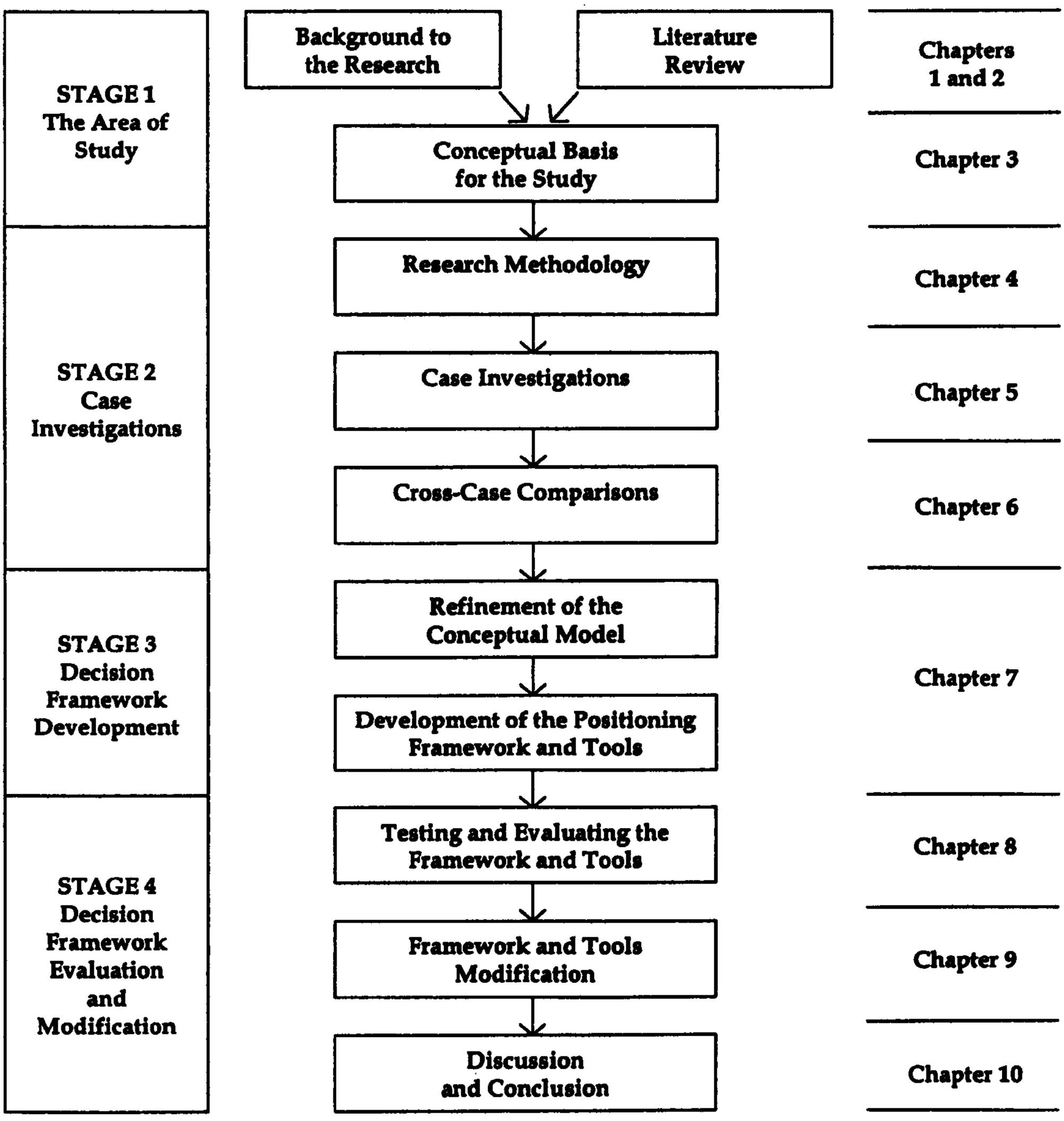


Figure 1(1) Thesis Structure

Chapter Two reviews the literature sources, the theories, knowledge, opinions that may be relevant to the area of study and other related published material that might inform the research, to identify the issues that need to be addressed and to clarify the conceptual basis and context of the research generally. The review covers five fundamental areas; the concepts of organisational support, organisational support requirements, alternative forms of support arrangements, the approaches for linking demand and supply, and selective generic decision frameworks and techniques. Chapter Three sets out and develops a general theoretical basis for undertaking research into the positioning of facility management, with the detailed methodology for the research described and discussed in Chapter Four. This chapter outlines the philosophical basis of the research, the approach that has been adopted for conducting the

study, the research design and the main methods that have been used for data collection and analysis. Chapter Five documents and analyses five case investigations that were undertaken to examine FM practices and positioning issues in the real world. This chapter focuses on the relationship between organisational requirements and FM provisions and their arrangements, and the changes to this interface between demand and supply. Chapter Six undertakes a cross-case analysis to compare the findings of each case study, their similarities and differences, and the patterns of relationship between the key factors under investigation. In the light of these empirical findings, Chapter Seven clarifies and further develops the generic positioning concept and sets out the detailed basis for a multi-stage decision framework for positioning FM. Chapter Eight describes the set of field trials that were undertaken to evaluate the applicability of the decision framework and its decision tools in practice, its strengths and weaknesses as assessed by a group of experts, and discusses the trial results and outcomes. Chapter Nine describes how the results of the field trial helped to identify possible area for improvement and modification. Finally, Chapter Ten summarises the outcome of the research generally. It discusses the likely implications for FM practice and the potential contributions to theory development, with conclusions and suggestions for further research.

Chapter 2

Literature Review

In the previous chapter the goals, objectives and context of the research were introduced and the basic theoretical propositions and primary questions for the research were set out. This chapter describes the review of the relevant issues, literature and theories that was undertaken. It focuses on the key issues that are relevant to the selection of FM support arrangements and practices. The review involved the selection of available documents on the topic, published information, ideas, data written evidence and opinions from particular standpoints, and the examination of this information in relation to the research being undertaken in order to understand the fundamental nature of the subject of study (Hart, 1998). The literature review had four main purposes. First, it examined the available knowledge, theories and publications that might be relevant to the subject of the study. Second, it identified gaps in the existing knowledge base and helped to clarify the important issues for further consideration and development. Third, it uncovered major differences in current opinions concerning facility management functions and arrangements. Forth, it indicated which key areas and factors of FM practice should be included within in any theoretical basis for positioning FM.

This chapter starts with the review of the general concepts of organisational support concerning facility resources and support services. It reviews expert opinions and previously published works on the factors that affect the support requirements of organisations and the key issues that need to be considered, describing the range of alternative support positions that may be adopted. This is followed by the discussion of the linkage between the demand for and the supply of organisational support arrangements, and an examination of available FM decision methods and the generic basis of decision processes. After this literature review, the main arguments and the rationale of this research are re-examined and discussed.

2.1 Organisational Supports

In any organisation, the realisation of their corporate objectives and strategies will rely on the support of four primary types of resources; their Financial Resources, Human Resources, Physical Resources and Intangibles (Johnson and Scholes, 1999; Lynch, 2003). Information, knowledge, intellectual capital and IT are also generally considered to be a

further type of primary resource that all organisations need (Varcoe, 2000a). Acquiring and managing these corporate resources is a crucial concern of organisations. The responsibility for managing these resources normally falls on a set of 'support functions' within the organisation and can affect their competitive advantage (Daft, 2000; Porter, 1985).

While the essential importance of Financial, Human and Information resources are recognised widely (Johnson and Scholes, 1999; Bender, 1983), some authors suggest that in the past the importance of physical resources and their associated services have tended to be undervalued by business (Baird, 2001; RICS, 2003; Nutt, 2004). Consequently, the management of physical resources has also been neglected (Bennett, 2000). From an organisational perspective, the physical resource support functions tend to be incorporated under the general headings of 'firm infrastructure' or 'business infrastructure' (Porter, 1985; Kincaid, 1994). Infrastructure management belongs to the category of 'support activities' which tend to be viewed as ancillary; activities that while not directly part of the core business, are nevertheless essential to support the core business, enabling it to operate securely and effectively. Besides the management of 'firm infrastructure', support activities also commonly include procurement, technological support systems and human resource management (Porter, 1985). Overall these support functions are needed to ensure that the primary activities of an organisation that directly generate income, or directly impact on business productivity, will operate smoothly without disruption. From this perspective, in the past FM has been given a relatively low priority by business, with no clear view of its supporting role and scope. Today this viewpoint is no longer reasonable. Both the negative and positive impacts of facility resources and support services on an organisation's core business operations and stakeholder interests have begun to become more widely recognised. For example, outdated facilities and poor services can be detrimental to organisations and employees, constraining work performance, reducing productivity and damaging an organisation's image (Nutt, 2004). In the most critical circumstances, deficiencies in vital support services to core operations can put the business processes of an organisation directly at risk through operational failures. On the other hand, appropriate facility resources and high quality support services can contribute to an organisation's business objectives, its operations, work performance and success (Nutt, 2004). In this respect, facility resources and support services can have a direct and significant impact on the performance of the business, the working environment and worker productivity (Green, 2004). They can be a key component in organisational change, and have a major role in reducing employee risks, improving life quality and well-being, and in promoting work productivity and business competence (Smith, 2003). In addition, the facility resources can contribute to the generation of intangible value for organisations since the physical environment and the quality of services can affect the image of an organisation to its client,

customers and employees, facilitating their activities, contributing to morale and supporting marketing and management objectives (Bitner, 1992).

Today there are signs that property and facility management is becoming more directly aligned with organisational objectives for long-term business advantage (Jones, 2000). It has become recognised that the management of the physical resources can have a considerable financial impact for an organisation (Goulet, 1999) and requires skills that are different to those of other support activities (Young, 2004). Operational support functions constitutes a multi-disciplinary field that involves a variety of professional concerns, covering a wide spectrum of knowledge and expertise that cannot be the responsibility of a single profession (Nutt, 2004, Grimshaw, 2003). In the past, the support activities associated with facility operations and maintenance, facility planning and property management, and office administration were delivered by discrete set of service providers (Thomson, 1990). Over the last twenty years the management of support activities has been developed and integrated due to the increasing recognition of the important contribution of facility resources and support services to organisational operations, as discussed above. Increasingly they have been consolidated into a group that is formally recognised as facility management (Rondeau *et. al.*, 1995). The Facilities Management title originated in the USA in the early 1980s (Price, 2003; Thomson, 1990), but the history of facilities management definitions can be traced back to the late 1970s (Price, 2003; Rondeau *et. al.*, 1995). The growth of FM has been propelled by increased building complexity, the need to contain and reduce operating costs, and the need for more productive and humane working environments. In the UK, the office sector initially dominated the concerns of facility management practice, followed by the health-care sector (Kincaid, 1996). Now, the facility management title has been adopted in most other sectors such as education, retail, leisure and manufacturing.

The rapid development of FM is reflected in the growth of FM networks, associations, institutions and quasi-professional bodies in many countries over the last fifteen years. The National Facilities Management Association (NFMA) was first to be formed. It was established in the USA in 1980, and has become known as the International Facilities Management Association (IFMA), since 1982. IFMA has grown globally through the establishment of local chapters in many countries. In the UK, the first FM association was the AFM, established in 1986. Later it merged with IFM to form the British Institute of Facilities Management (BIFM) in 1994. FM associations and institutions have been established in many other countries such as DFM in Netherlands, FMA in Australia, and JFMA in Japan. Euro FM is a network organisation for FM associations and individuals across the EEC countries.

Although the term of 'facility management' has become recognised widely around the world, there are many different opinions about its purpose, scope and definition. Table 2(1) provides a selection of different definitions of facility management, there are many more.

Table 2(1) Definitions of FM

Source	FM Definitions
The US Library of Congress (1982)	The practice of coordinating the physical workplace with the people and work of the organisation, integrating the principles of business administration, architecture, and the behavioral and engineering sciences.
International Facilities Management (IFMA) (early 1980s)	Facility management is a profession that encompasses multiple disciplines to ensure functionality of the built environment by integrating people, place, process and technology.
Becker (1990)	Facility management refers to buildings in use, to the planning, design, management of occupied buildings and their associated building systems, equipment and furniture to enable and to enhance the organisation's ability to meet its business or programmatic objectives.
Centre for Facilities Management (CFM) (1991)	The process by which an organisation delivers and sustains support services in a quality environment to meet strategic needs.
Association of Facilities Management (AFM) (1992)	The practice of coordinating the physical workplace with the people and work of an organisation.
UCL (1993)	The management of facility resources and services to support the operation of an organisation over time.
Alexander (1994)	The process by which an organisation ensures that its buildings, systems and services support core operations and processes as well as contribute to achieving its strategic objectives in changing conditions.
Barrett (1995)	An integrated approach to maintaining, improving and adapting the buildings of an organisation in order to create an environment that strongly supports the primary objectives of that organisation.
Kincaid (1996)	The process that provides the working environment which enables an organisation to function.
FMA Australia (2002)	A business practice that optimises people, processes, assets and the work environment to support the delivery of the organisation's business objectives.
Atkin and Brooks (2002)	An integrated approach to operating, maintaining, improving and adapting the buildings and infrastructure of an organisation in order to create an environment that strongly supports the primary objectives of that organisation.
Nutt (2004)	The management of infrastructure resources and services to support and sustain the operational strategy of an organisation.
British Institute of Facilities Management (BIFM) (2005)	The integration of multidisciplinary activities within the built environment and the management of their impact upon people and the workplace.
European Standard, CEN (proposed, 2005)	An integrated process to support and improve the effectiveness of the primary activities of an organisation by the management and delivery of agreed support services for the appropriate environment that is needed and to achieve its changing objectives.

These definitions show the diversity of positions, scope, foci and remits of FM. Some authors see this diversity as a weakness due to the lack of a clear disciplinary or professional coherent. They suggest that FM needs to settle on an agreed common definition and boundary to its practices (Mole and Taylor, 1992; Tay and Ooi, 1999). Others see the variety of

definitions as inevitable and as a strength, given the range of opinions and practices of those working in this rapidly expanding and diversifying area of management expertise (Nutt, 2000; Grimshaw, 2003). Despite the variety of definitions and the diversity of FM practices, there seems to be a common consensus that facility management is primarily a support function, managing property, facility resources and services to meet the needs of organisations at various levels (Nutt, 2002a). This supporting role of FM distinguishes it from business management and operations management generally (Nutt, 2000). Most authors agree that the overriding purpose of facility management is its support role which is able to co-ordinate and integrate disparate operations and tasks to make an effective and holistic contribution to core business processes and operations (Grimshaw and Cairns, 2000). It should be noted however, that some authors consider that FM could be seen as a part of core business functions (de valence *et. al.*, 2003; Alexander, 1994). Others believe that while FM is generally not a core organisational concern, it can occasionally be so during periods of major organisational change (Loosemore, 2004).

Most agree that the basic purposes of FM are to support the operations and work activities of an organisation and its staff, managing the work environment and associated support services. A more ambitious viewpoint is that FM is a function that can manage all of the physical resources, support services and working environments for an organisation to support all of its core operations and strategies, within an integrated management approach (BIFM, 2003; Atkin and Brooks, 2000; Alexander, 1996). FM provides continuous support and service delivery throughout the life cycle of the physical facilities and the business lifecycles of the organisation. The main concerns of FM have included the cost-effective operational performance of the facilities, the efficient use of space, the management and maintenance of facilities, service delivery effectiveness, and health and safety issues. FM can also contribute to the creation and management of intangible assets and value (Nutt, 2004; Green, 2004), the modification and improvement of facilities, the adaptation of existing buildings and facilities, the briefing and design for new and facilities, and strategic decisions concerning future operations and services overall (Nutt, 2000).

Given the diversity in the definitions and description of the FM function, the concept of organisational support has also been developed from different perspectives. These different viewpoints may be grouped into seven main categories: workplace support, service operations management, resource management, business support management, corporate infrastructure management, urban and community FM and the support environment.

The most widely held view of FM is that it is responsible for 'workplace support services' for the upkeep and servicing of the working environment (Cotts, 1999; Rondeau *et. al.*, 1995; IFMA, 2003), a management function controlling all of the disparate operations, activities and services that enable an increasingly complex workplace to function. The main objectives of this workplace support function have been to improve the quality of the service, to reduce costs and to improve the work environment, its safety and security. Workplace support was the original focus of FM as evidenced by the 1982 definition of the US Library of Congress, arguably it is probably the most modest position and the most limited in scope. The services included relate to a long list of routine facility operations and activities that support business operations, work processes, employees, customers and consumers (Rondeau *et. al.*, 1995). Authors tend to place different emphasis on various aspects of workplace support. Some focus on the physical and environmental aspects, concentrating on the management of services that enable the building to operate properly and in good condition, ensuring user comfort, safely and functional effectiveness (Kennedy, 1996). Here the central concerns of FM relate to the facility, its building systems, equipment, furniture, and to work operations and activities. Others suggest that FM responsibilities be mainly focused on workplaces and functional space at the level of individual user support (e.g. Then, 1992; Becker, 1990; Tay and Ooi, 2001). In another and broader view, workspace is regarded as a business resource, FM focuses on the delivery of an enabling workplace environment with the optimum functional space to support business processes and human resources, enabling and enhancing the organisation's ability to meet its business objectives (Becker, 1990). Here FM concerns include workplace policy and procedure, human behaviour and management style. So overall, from a workplace support perspective the FM function can include the co-ordination of all activities related to planning, designing, and managing buildings and their systems, equipment and furniture, its scope covering building acquisition and leasing, building operations, space allocation, maintenance and interior design (Becker, 1990).

The concept of organisational support can also be considered from a service sector perspective. From this position, FM has been considered primarily as a 'services management' function that encompasses all of the processes of service provisions that are needed to support an organisation and its activities (McLennan, 2004). FM functions and operations include a number of service market segments, including property services, business services, catering, cleaning, security, maintenance and engineering services, within a consolidated approach to services management (BIFM, 2003). This view emphasises the importance of reflecting the services sector and customer focus within the concept of facility management. When developed further it could place FM as an important component of the service economy with FM focusing on 'service operation management' as its central concern.

Organisational support arrangements have also been considered from a resource management perspective. This approach has been routine in management, corporate planning and business studies for many years (Nutt, 2004). From the 'Resource Management' perspective the organisational support involves the acquisition, allocation and management of all resources and the associated services that are needed to support and sustain an organisation over time (Nutt, 2000). Four generic types of resource are always part of an organisation's support requirements; its Financial Resources, Human Resources, Physical Resources and Information Resources. FM has important management interfaces between each pairing of these four organisational resource types (Grimshaw, 2003). While the management of Physical Resources is a primary responsibility of FM, the management of Financial Resources, Human Resources and Information Resources are also partly its responsibility. Within a resource management role, FM provides a wide range of support both operational and strategic, at various levels. Overall this view suggests that the strategic contribution of FM will occur mainly through its support to an organisation's 'operational strategy' (Nutt, 2004). This concept emphasises that a balance of strategic and operational alignments in the resource management profile needs to be maintained to fit the organisation's support requirements and their changing context.

One of the most common organisational support concepts for FM is a 'Business Support Management' viewpoint (Barrett, 1995; Alexander, 1994; Atkin and Brooks, 2000; Langston and Lauge-Kristensen, 2002). This perspective, which includes many aspects of the three previously described concepts, sees FM as a business function responsible for the strategic and operational planning and management of facility resources and non-core business services, to support core business processes and operations of the organisation, enhancing its performance and competitiveness. Here, the key role for FM is to match an organisation's support requirements with its physical settings (Langston and Lauge-Kristensen, 2002), within an integrated business approach to operating, maintaining and managing resources and services to underpin the organisation's goals. From this conceptual position facilities and services are seen as a key business resource for every organisation.

A number of more extensive concepts for organisational support have been advanced recently. One trend is towards total 'corporate infrastructure management' (Varcoe, 2000a; Goulet, 1999; BIFM, 2003). In this view, FM could potentially encompass business infrastructure supports of all kinds, including IT, corporate real estate and asset management, HR management and business services within its integrative management approach. However, there have been challenges to this viewpoint, especially from academics such as

Grimshaw and Cairns (2003) and Nutt (2004), on the practicalities of this position, given the current competencies of FM, its knowledge base and capabilities. Furthermore, a recent survey of FM practitioners in North America (IFMA, 2001) indicated that this trend is most unlikely to develop in the foreseeable future. Other, more realistic viewpoints for extending the FM remit have been outlined (Robert, 2000). He sees FM as a support function operating at a larger scale to encompass the range of urban facilities and public services within 'Urban and Community FM'. Here, FM is becoming to be seen as a public and community level management function (Roberts, 2004) with responsibilities for the management of public infrastructure and its associated community services. Urban FM is primarily concerned with public interest and community well-being and many see this position as a major opportunity and challenge for the future development of FM.

Finally, the most recent concept of organisational support regards FM as the management of the business 'Support Environment'. From this perspective, FM should provide a comprehensive support environment to the entire organisation, coordinating and integrating people, place and processes to create competitive advantage for the organisation (Green, 2004). The challenge here is to manage the business support environment to consistently meet the changing needs of the organisation with an optimum use of resources (Green, 2004). In any circumstance and at any level, the support environment should be directed and managed to fulfil its functions, to achieve desirable outcomes, and to avoid risks and failures of all kinds (Nutt, 2004). This view shares many common ideas with other viewpoints, particularly those of resource management.

This part of the literature review has indicated a variety of organisational support concepts that might be adopted. Each of them represents a different scope, focus, mix and prioritisation of organisational support arrangements. This leads to very different ideas concerning which FM arrangements might or should be adopted. These will be fully discussed in section 2.3.

2.2 Organisational Support Requirements

Since facility resources and support services are required to enable businesses to operate their core functions effectively, organisational support requirements have traditionally been considered to lie at the heart of FM practice. Organisational requirements and goals generate direct demand for facility resources, support services and facility management skills and arrangements (Langston and Lauge-Kristensen, 2002), with the primary operations of an organisation being a key factor in determining support function

requirements (Porter, 1985). The relative importance or criticality of FM support will tend to vary depending on the needs and characteristics of the organisation being supported (Kindcaid, 1996). This section reviews expert opinions concerning the effects of organisational characteristics on their requirements for business support from facility resources, services and facility management generally.

The term 'Organisation' is defined as a collection of interrelated elements or groups with a relatively identifiable boundary, rules, hierarchy, communication, and coordinating systems, existing on a continuous basis within an environment, and engaging in activities that are usually related to a set of goals (Hall, 2002). Organisations are generally considered to consist of people, culture, structure, power, technology, objectives and business processes (Boddy and Paton, 1998; Johnson and Scholes 1999; Daft, 2000) and comprise a dynamic matrix of operations, both those that are primary business operations and those that are support operations (Porter, 1985; Bennett, 2000). Organisational characteristics and dynamics are affected by both internal and external factors. The internal factors refer to internal processes, operations, politics, and the culture of the organisation (Cooke and Slack, 1991). These factors tend to affect organisational structure, working methods and procedures. External factors refer to everything that, while outside of the boundary of an organisation, can nevertheless potentially influence the organisation (Hall, 2002). These factors include technological innovation, legal regulations, political influences, economic conditions, demographic, ecological, cultural and societal conditions. These external factors can constrain or support the operations of organisations, affecting their policies, corporate arrangements, working operations and markets. Overall both the internal and external factors can directly and indirectly influence an organisation, the structuring of its elements, including its business processes and management decisions (Hall, 2002; Cooke and Slack, 1991; Gerloff, 1985).

Based on their main functional purpose and core business operations, organisations have been categorised into a number of traditional sectors, including financial, commercial, educational, healthcare, manufacturing, etc. (Hall, 2002). Organisations in different business sectors tend to depend on different sets of facility resources and services since the requirement and relative importance of facility resources to core business operations vary by organisational sector (Price, 2004; McLennan, 2004; Nutt, 2002a). In some industries the support functions attract little attention. In other industrial sectors, the FM support services can be a crucial operational element with significant impact on the success of that company. For example, organisations within sectors such as retail, hotel and leisure, critically require facilities and services that support the activities of their customers and employees directly (Bitner, 1992). The environment and condition of facility are very important to the

organisations in these business sectors. So different degrees of dependence on facility resources and services lead to different sets of organisational requirements (Price, 2004). For instance, maintenance management functions are usually crucial to organisations that face high operational failure risks, e.g. acute hospitals, airports, railways, nuclear plants, etc. In other businesses, the conditions and qualitative ambience of the facility and its location can be important, as in universities and business parks. The quality of facility services tends to be most important to businesses where public customer impact is direct and immediate, such as retail sites and hospitals. The potential response of organisations to improve the services to support their core business activities and to reduce negative impacts also varies from sector to sector (Grimm, 1994; Price, 2004). This issue leads to the classic debate about the level of contribution that strategic FM can make to the core business. It may be argued that in most organisations and for most of the time, support services are important but 'non-critical' (Nutt, 2004). FM rarely has direct impact on corporate failure or success, except to those facility-reliant organisations where their facility portfolio and its distribution are critically linked to business operations. In this sense, the strategic contribution of FM tends to occur mainly at the operational strategy level (Nutt, 2004). It can contribute at the business strategy level in cases where the facility is an integral part of the business, e.g. hospital, shopping mall, hotels, and so on. Nonetheless it should be remembered that FM can occasionally be important and critical to an organisation's business strategy, so the balancing of operational and strategic support capabilities of FM has to be considered.

In providing organisational support at the operational level, there are two basic needs that have to be considered: operational needs and human needs, both being important in relation to the performance of the organisation. Operational needs concern the requirements of an organisation's primary operational process in transforming its input resources into output products or services (Johnson and Scholes, 1999). Satisfying these needs are critical to the overall performance, competitiveness and survival of the organisation. According to the operational management literature, organisations require sufficient facility resource capacity, technology and location to support their operational processes. These operational needs can be identified from the organisation's policy and its operation strategy concerning operational goals and capabilities and with the technology required (Daft, 2000). Organisational policy commonly refers formally agreed intentions, objectives, guidelines, standards, and broadly stated course of action to be followed in making decisions (Robbins and Coulter, 2003; Schwartz, 1984). An organisation's policy documentation may state, indicate or imply an organisation's fundamental operational issues including level of resources required and used, the structure of the organisation, its management style and the priorities of each of its operations (Pettinger, 2002). In many cases organisational policy does not include

requirements and expectations for facility resources, services and FM support. However, public sector organisations and large corporate organisations are more likely to have clearly stated policies concerning their support requirements. Ideally, organisational policy will elaborate on support requirements, the allocation of resources, workspace design and allocation, service levels, quality standards, and the methods for service delivery, and will help to clarify how organisational and business objectives might affect FM strategy and operations (Atkin and Brookes, 2000). The other type of need is human or employee needs. Satisfying employee needs can make an important contribution to motivating them to work effectively, resulting in higher productivity and performance (Rosenfeld and Wilson, 1999). In most organisation and HR management literature, the basic employee needs are classified according to Maslow's hierarchy of needs which include physiological, safety, affiliation, esteem and self-actualisation (Boddy and Patton, 1998; Morgan, 1986; Hatch, 1997). Some also mention the ERG need theory of Alderfer as a practical approach that covers three basic needs; 'Existence' needs, 'Relatedness' needs and 'Growth' needs (Buchanan and Huchzynski, 2004). Based on these theories, all organisations will require good and safe working conditions to satisfy the physiological needs of their employees (Boddy and Paton, 1998), while additional facilities and services can enhance employee loyalty and esteem.

Each organisation will have a distinct culture which can also have a major effect on how the organisation operates (Barrett, 1995). Organisational culture covers the basic assumptions and beliefs that are shared by members of an organisation (Johnson and Scholes, 1999). It includes an organisation's general attitude, value and image and the extent of its responsibilities towards employees, customers and community support (Buchanan and Huchzynski, 2004). Organisational culture will affect its service requirements, the service delivery process, service agreements, and service practices (Grimm *et. al.*, 1994). In turn, the priorities of FM support arrangements need to reflect the cultural priorities and value of the organisation through its services (Cassels and McAuley, 1994). So different organisational cultures are likely to have different requirements and adopt different approaches to their FM arrangements and performance measures (Alexander, 1994; Mitchell, 1994). Organisational culture is also a factor in selecting the key issues for facility services evaluations and improvements (Cassels and McAuley, 1994). The interests of stakeholder can also influence an organisation's support requirements. Stakeholders are the group within or outside the organisation that has some stake in the organisation's performance and the benefits that accrue (Daft, 2000). The generic organisation's stakeholders then include a wide range of interests that may be divided into internal and external groups of stakeholders (Martin, 1998). Internal stakeholders include employees, managers, in-house union representatives, internal customers and suppliers. External stakeholders include trade unions, owners, trade

associations, suppliers, an employee's family, competitors, customers, government, and community interests. Seven major groups of stakeholders are normally mentioned in relation to support arrangement concerns: shareholders or investors, business sector interests, customers and consumers, occupants and employees, suppliers, the local community, and society and government (Alexander, 1996). Stakeholder interests can affect the demands, priorities and standards, and quality of organisational supports (Nutt, 2002a). Each stakeholder has a different set of interests in the organisation and its business, and organisations need to balance the demands and expectations of all of their stakeholders. Some times, the interests of stakeholders can tend to be in conflict one with another. For example, facility investors are concerned with the return on their investment and the long-term asset value of the property holding, while the employees are interested in their workplace services and the environmental quality and safety of the building. However, most tend to agree on the need to occupy a functionally suitable building at low cost (Smith, 2003). FM need to provide and manage the support services that meet the requirements of all stakeholders in a balanced way.

Recently, development in communication and information technology has generated a range of opportunities through which organisations and their employees can work more flexibility, both in time and place. As a result, organisations and their employees are becoming less dependent on a single place of work (Grimshaw and McLennan, 2004). Today organisations tend to have different workplace requirements in terms of time and place (Nutt and McLennan, 2000). Four basic types of organisation work circumstances have been investigated: work conducted at the same place at the same time, at the same place but at different times, at different places but at the same time, and at different places at different times. There are well established trends in the diversification of work practices, more responsive working arrangements, the global dispersal of work, new multi-venue and multi-location ways of working, and the space-time management of facilities (Haron, 2000). These new forms of work and more flexible forms of employment are generating new demands for the accommodation of business activities and facility support (Bradley and Woodling, 2000). The new geography of workplace location, work processes and work logistics, requires different business support arrangements in terms of quantity, quality, diversity and functionality (McGregor, 2000). Changing work patterns and workplace requirements are resulting in different resource allocation procedures, the logistic management of space and support services, and quite different sets of organisational requirements for FM support (Nutt, 2000). It is probable that support requirements will become even more diverse in the future as the working environment needs to become more adaptive and agile, capable of responding quickly to the changing demands of corporate strategy as well as individual requirements

(Young, 2004). Organisations will require new forms of support services to satisfy the demands of the distributed workplace, its space-time complexity, changing social relationships and work culture, within an employee's work-life balance.

Management theory has tried to understand and explain organisational changes through the stages in the development life-cycle (Hall, 1987; Quinn and Cameron, 1983, etc.). There are various viewpoints about the number of stages within the organisational lifecycle. At the simplest level, an organisational life-cycle can be described as a birth phase, a transformational phase and death stage (Hall, 1991; Rosenfeld and Wilson, 1994). Many describe the lifecycle in four stages; an inception/entrepreneurial stage, a growth/collectivity stage, a stable/formalised control stage, and a diversification/elaboration stage (Quinn and Cameron, 1983; Kimberly and Miles, 1980; Daft, 2004), while other authors describe organisational lifecycle in five stages or more (Hatch, 1997; Galbraith, 1982). Although these authors describe the number of organisational development stages in different ways based on different issues, they commonly agree that each of these development stages has particular organisational characteristics and is dominated by different management priorities, power balance, human resource needs, motivation, leadership style, degree of coordination, crisis and emphasis (Smith *et. al.*, 1985; Rosenfeld and Wilson, 1994; Hatch, 1997). Quinn and Cameron suggest that these different models of organisation lifecycle share some common characteristics, and can be integrated into four common stages as shown in Table 2(2). The inception/entrepreneurial stage is typified by innovation, creativity and marshalling of resources, with organisational emphasis on resource acquisition, the development of external supports, and preparing for business growth. In the growth/collectivity stage, organisations give emphasis to the development of the human resource base, its training, morale and cohesion, establishing cooperation across all parts of the organisation and meeting employee and customer needs. The size and rate of growth of an organisation has important implications for its support requirements and the FM remit (Mitchell, 1994). Mitchell notes that smaller organisations tend to require lower initial standards of services, with tighter space constraints, and smaller levels of resource availability. In the stable/formalised control stage, organisations give emphasis to organisational stability, the efficiency of production, corporate rules and procedures. Finally, in the diversification/elaboration stage, the management will tend to prioritise the monitoring of the external environment in order to renew itself or expand its domain, or both. These patterns indicate that organisational activities and structures in one stage are not the same as the activities and structures at another stage. The timing of stage changes and the duration of each stage, will clearly vary by organisational characteristics, circumstances and conditions (Quinn and Cameron, 1983). Some organisations might reach the third stage very quickly, while other might not.

Table 2(2) Organisational Lifecycle

STAGE 1 Inception/ Entrepreneurial	STAGE 2 Growth/ Collectivity	STAGE 3 Stability/ Formalisation and Control	STAGE 4 Diversification/ Elaboration of
• Small • Informal structure • Investment awareness	• Larger • Rapid growth • Formal organisational structure: functionally based • Investment-oriented	• Larger and older • Average growth • Centralised organisational structure	• Large • Declining • Diversified/ Decentralised organisational structure • Reform

(Source: Adapted from Quinn and Cameron, 1983)

Organisational changes affect the size and structure of the business, working patterns and the needs for facilities and support environment (Alexander, 1996). Organisations tend to have different requirements for facility resources at different stages of their organisational development (Cowan *et. al.*, 1969). For example, at the early inception stage, with small scale operations and limited resources, organisations tend to look for cheap accommodation at secondary locations. At the start of the growth period, organisations naturally require more space and acquire additional facilities usually by moving, balancing out the quality of location and higher rents against the type and quality of accommodation needed. As growth continues, more significant facility investment may be required and the diversification of facility locations tends to increase. Towards the end of the grown phase, when organisations have become well established, they may consider building their own accommodation. The early studies of Cowan *et. al.* were surprised to discover the extent to which organisations moved entirely or in part because of dissatisfaction with their facilities, and the wide range of reasons which caused a facility to become unsatisfactory. This work indicated that the provision of space was a major factor in the decision structure of any growing organisations, and that the pattern of their growth often forced them to change their plans, to improvise, and to accept expedient solutions.

It is to be expected that facility requirements will change as organisations expand, merge, diversify, restructure, stablise or downsize (Hinks, 2002) and support environment priorities will tend to reflect organisational circumstances, different business climates and market conditions (Nutt, 2002a). Generally, organisational change can occur either within stable periods or unstable circumstance. Stable circumstances refer to the time periods when organisations are in a broadly unchanging state, or have steady growth with small scale incremental change, while unstable circumstances refer to periods of high uncertainty, under

rapidly changing, turbulent and unpredictable conditions that might entail significant organisational change. It has been suggested that in stable periods, FM functions tend to give priority to the secure management of routine operations and operational supports. In contrast, during unstable periods of rapid change, the strategic functions of FM will need to receive priority in order to modify or reform the support environment, reducing risks and gaining advantages for the organisation in its changing circumstances (Nutt, 2002a). Strategic planning, contingency arrangements and rapid adjustments are normally required in these unstable periods. The priorities and criticality of key FM functions tend to change over time. The term 'criticality' generally refers to events, relationships or changes that determine the degree to which any FM function or service is considered to be critical to the core business of the organisation (Loosemore, 1998). Loosemore's case studies found that a set of FM functions were given high priority in some situations, but might not in other circumstances and that 'criticality' could be an intermittent, continuous, short term or long term consideration. These findings lead to an argument that the distinction between 'core' and 'non-core' activities is not always a permanent feature. Loosemore's studies suggest that FM issues that were generally considered to be non-critical and 'non-core' support functions during stable periods, often became critically important 'core' concerns for the organisation during periods of major change. Once the organisational changes were completed, then these critical 'core' concerns reverted to 'non-core' issues with low 'criticality' (Loosemore, 2004). According to these studies, there might be no singly preferred point of balance between FM's operational and strategic management role. Rather, that the balance of operational and strategic support from FM needs to be considered in relation to the organisation's changing requirements under stable and unstable circumstances, with the priorities of FM re-assessed and adjusted from time to time.

Corporate organisations that have operations in several regions of the world need to be aware of any contextual and cultural differences that might have an impact on their support requirements (Buchanan and Huchzynski, 2004). Issues associated with the cultural, legal, environmental, economic and social context can give rise to different sets of requirements and different national and regional priorities for FM practice and arrangements (Nutt, 2002a). The contextual influence on FM practices in Asia have been observed by Wong (2000), particularly in relation standards, perceptions, and quality of service. He describes how the differences in conditions and specifications for facilities, standards and costs can affect FM practice, emphasising that FM practitioners need to be sensitive on cultural issues. For instance, Southeast Asian countries currently have lower standards and expectations when compared to those of the UK and USA, due to the stage in their economic development, cultural tolerance and local preferences. It is therefore to be expected that FM arrangements in

different countries will tend to adopt different standards of practice in respect to regional and local preferences, beliefs, values, and culture.

It should be noted that the extensive literature concerning corporate organisations, organisational theory and business management tends to ignore or pay little attention to organisation support requirements and the business support environment. While many publications provide basic lists of types of support, few consider them in any detail. Although Porter provides general framework for describing the 'value chain' in relation to the key functions and activities of organisations, there is little detail on the range and extent of the support required or the management of its provision. Likewise, the 'content theories' concerning employee's needs and motivation as used in HR management, tend to focus on the strategy and approach for meeting these needs in relation to business operations and reward systems, but not through support requirements directly.

Overall, the literature review indicates that the support requirements for facility resources, support services and FM arrangements will need to vary with organisational types and characteristics, locations and business circumstances. In addition, these support requirements will change from time to time. A number of factors that affect organisational support requirements, which in turn influence FM support arrangements, were highlighted. Any FM approach will need to be contingent on these organisational issues and their variations (Grimshaw, 1999), with the following key questions needing to be addressed:

- What are the key factors and issues in a particular set of organisational circumstances that will contribute to its organisational support requirements?
- What organisational issues should be examined when arranging and structuring FM practices and services?
- How can impending changes to organisational support requirements be identified or predicted?

2.3 Alternative Support Arrangements

Given the diversity of organisational characteristics, circumstances and support requirements as described in the previous section, it should be expected that a diverse range of FM support positions will be in place from which a variety of FM practices are currently conducted. In this section, the thesis explores alternative support arrangements for FM practice, including the scope and remit of FM, its organisation and structure within an organisation, and its management emphasis whether priority is given to property

management, business support, customer and employee support, support services, or to different combination of these (Nutt, 2002a).

FM Remit

While the supporting role of FM is widely recognised, there is considerable disagreement about the scope of FM (Nutt, 2002a) with different views about its purpose and the range of responsibilities and functions. These viewpoints can be categorised under three general headings: the limited remit, the moderate remit and the extensive remit.

From a limited remit position, FM is about ensuring the day-to-day functional performance of property and the delivery of basic support services. This common and traditional viewpoint considers FM as a largely building-related set of activities focusing on the operational issues involved in the routine management of facilities and services (Price, 2003). From this perspective, FM focuses on ensuring that the organisation and its staff have a dependable and on-budget service with the best possible site, space, facilities, furnishings, and support systems to serve their needs (Rondeau *et al.*, 1995). FM covers a limited scope of building operations and services, such as building maintenance to structure, fabric, mechanical and electrical, plant, alterations and minor repairs, space management, statutory compliance, security and health and safety, utilities and energy management, insurance, fittings and furniture, cleaning, and other minor administrative duties (Avis, 1994; Kennedy, 1996; Cordy, 2002). This tightly focused view is primarily concerned with the administration and operation of individual premises and their support services, which can be grouped into five typical groups: property services, amenity services, administrative services, hospitality services and communication services (Kennedy, 1996).

The second position, the moderate FM remit, covers a wider field of activity (Nutt, 1999), and is responsible for the provision and management of many varied services (Barrett, 1995) including the management of property and corporate real estate, business infrastructure management, distributed facilities and workplaces and facilities, and all employee and user services that are required to support the processes, operations and activities within the facility. So the scope of facility management can cover all aspects of property management, space allocation and management, environmental control, health and safety, and all associated support services (Alexander, 1996). The Australian FMA's position sees facility management responsibilities ranging from those with a very high level of decisions authority within an organisation and contributing directly to strategic planning, resource acquisition and deployment, to those managing the routine day-to-day operations of the facilities (FMA,

2003). Within the 'moderate remit' position, FM embraces a broader range of services, many more than those associated with building operations and maintenance alone (Aston, 1994; Best *et. al.*, 2003). More than twenty-five support services are typically included within the responsibilities of FM (Thomson, 1990). The scope of FM services defined by IFMA includes long-range facility planning, annual facility planning, facility financial forecasting and management, real estate acquisition and disposal, interior space planning, work specifications and installation and space management, architectural and engineering planning and design, new construction, renovation work, maintenance and operations maintenance of the physical plant, telecommunications integration, security and general administrative services (IFMA, 2003).

Many have suggested that the FM remit could be wider still, covering an extensive range of responsibilities. Most notably the BIFM has claimed that FM will become recognised as a crucial strategic business discipline (BIFM, 2003). The extensive FM remit as suggested by the BIFM includes a vast range of FM services, encompassing corporate asset management, IT services, financial services, customer service management and business performance delivery services (BIFM, 2002). Others have suggested that the FM remit should encompass the management of integrated business infrastructure support at Board level (Becker and Steele, 1995), and that the FM title might eventually include HR and IT (Goulet, 1999). All of those who advocate these more extensive remits for FM tend to agree that an even broader range of service responsibilities will be required in the future. They suggest that the range of services will need to include financial management, information and communication management, asset and property management, infrastructure and project management, quality management and risk management services (Bernard Williams Associate, 1994). Cotts sets out the most extensive range of services covering fourteen types of support, with more than forty individual services identified, ranging from general administrative services to real estate acquisition and disposal (Cotts, 1999). Based on these viewpoints across the 'limited', 'moderate' and 'extensive' FM remit positions, a detailed overview of the range of FM services has been created to inform the theoretical basis of this thesis, as illustrated in Figure 2(1). This shows the nine most common groups that were identified through the literature review. These nine groups are; real estate and property management, project management, maintenance and repairs, building operations and services, office services, planning and programming, space planning and management, operations, administration and management, employee support and services.

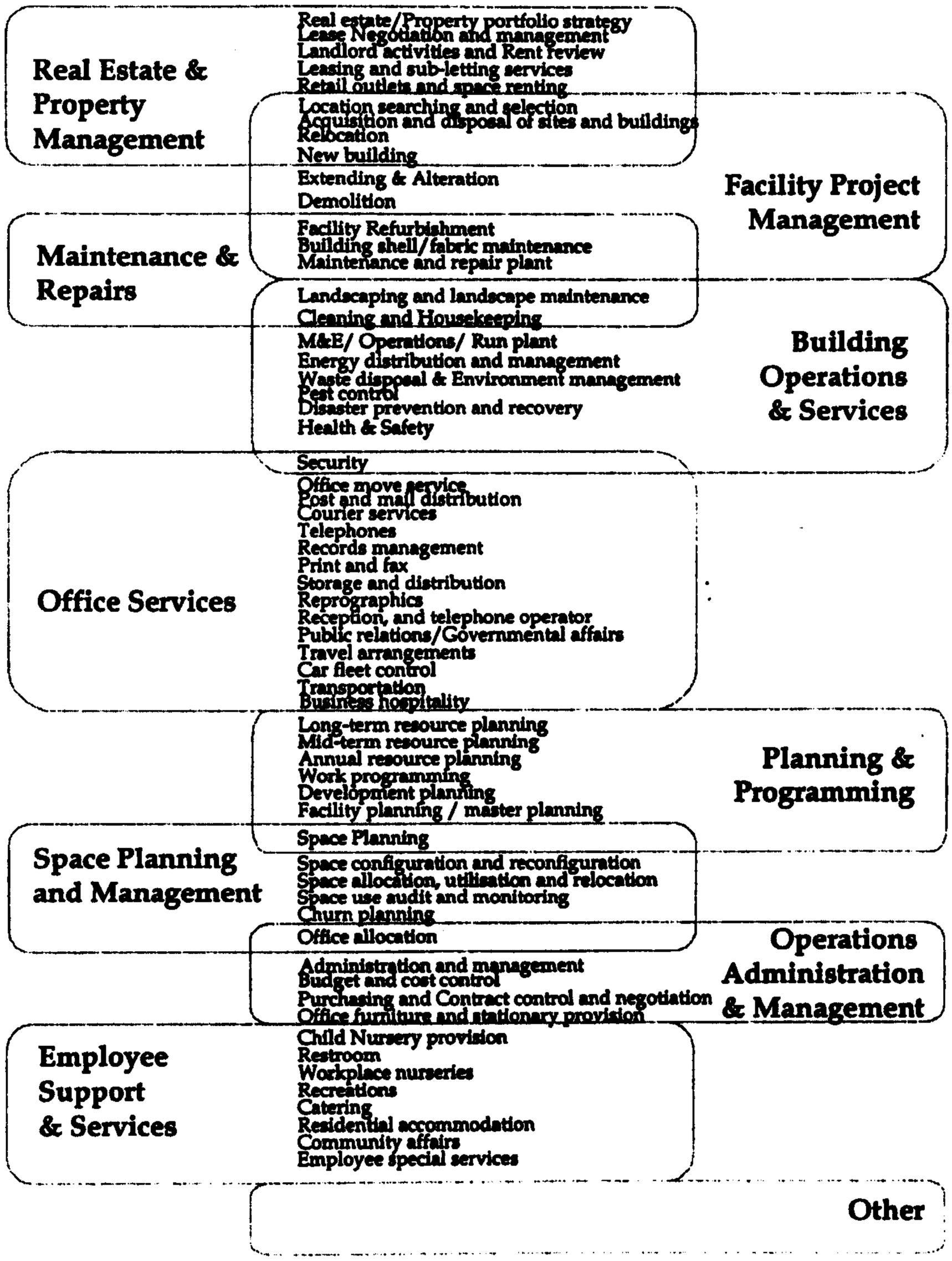


Figure 2(1) FM Services Remit

Figure 2(1) includes an undefined tenth group - 'Other'. This undefined group is included to ensure that future possibilities are not overlooked. So the services hat have been suggest from the 'extensive' remit viewpoints, together with service innovations in the future, would be included here, as and when they are introduced. For example, in the recent years the scope of FM service has been extending beyond the services that are normally provided within the site or the facility. In some 'best' practice cases, services have been broadened to cover issues such as life-style management, personal and family support, the management of the journey to work and the facilitation of local amenities uses (Chiswick Park, 2001; Roberts,

2004). FM is also becoming more involved in community and environmental services and their management, such as waste management, transportation management and logistics, residential care and educational support (Roberts, 2004). The participation of FM in PFI schemes requires FM to deliver support services over the long term according to the specific needs of a given projects (Jones, 2000). Other social supports for the organisation's business, its clients, customers, employees and public at large should be expected, as the scope of facility management practice continues to expand rapidly (Nutt and McLennan, 2000; Nutt, 2004). In these circumstances it would be shortsighted to rely on any single or standard viewpoint. As organisational requirements, business operations, community needs and work patterns continue to diversify, it is likely that 'other' innovative services will be included within the FM remit to support new operational and strategic demands in the future.

Support Services Arrangements

Given the wide range of support services within the FM remit, individual services cannot be expected to be of equal importance to an organisation, its business processed and operations. Support services can be categorised within three basic levels of relative importance (Nutt, 1997). First, there is the 'inner shell of support' of those services that provide vital support to the core operations of the organisation at all times. Deficiencies here put the core businesses at risk. Second, the 'middle shell of support' provides routine but essential day to day support services. Third, there is an 'outer shell of support' consisting of services that are only required occasionally but, when they are required, they entail specialist knowledge and skills that are not normally available within organisations. Given the differences in organisational objectives and business operations, a variety of emphases between these shells of support should be expected. Support service arrangements tend to be structured according to their criticality for business continuity and their relative importance to employees, customers and consumers (Nutt, 2002b). Support services can be packaged and managed in different ways, with at least four ways in which they are commonly structured (Bennett, 1999; Nutt, 2002a). First, support services can be considered as a set of individual services, dis-aggregated packages within an 'office services' package, a 'building services' package, a 'customer services' package, and so on. Second, support services may be considered as a 'property services' package: an aggregated package of property and support services, within which property concerns are the main focus. Third, support services can be arranged as a package of 'business services', an integrated set of support services within a service-based business strategy. Forth, support services may be arranged within a totally integrated 'infrastructure services' or TFM package (Deutsche Bank, 2003).

The arrangements for service delivery across the wide range of service types have become an important issue for organisations. Identifying service delivery options and selecting the preferred delivery method is an important issue for FM practice (Jones, 2000). Support services can be delivered by the organisation's in-house staff, or external service providers, normally termed 'contracting out' or 'outsourcing' (Barrett, 1992; Payne, 2000). The outsourcing of support services has become popular in recent times and many suggest that it can provide financial advantages for the organisation (Katsanis, 2003), releasing staff time for core business activities. A combination of the two types of service delivery arrangement may be adopted to provide a range of 'mixed-sourced' solutions under a variety of partnership undertakings (Atkin and Brooks, 2000; Buckley and McFadzean, 1994). Some authors claim that an appropriate strategy for service delivery procurement and partnering could improve the business competitiveness of an organisation (Anderson and Rajagopal, 1994; Buckley and McFadzean, 1994). Overall, the selection of the service delivery method will depend on the policy, goals and criteria of the organisation (Bernard Williams Associate, 1994; Aston, 1994; Grimm *et. al.*, 1994; Kennedy, 1996; Szigeti and Davis, 2002).

When outsourcing is adopted, organisations have a number of options for arranging their service contracts. At its simplest, there are three basic approaches to grouping support services within an outsourcing contract: individual, bundling and total facilities management (Barrett, 1995). First, organisations can enter to separate contacts for each single service (Payne, 2000), each service being tendered and managed individually within the service portfolio overall managed by the FM team. This method probably has the lowest risk, but tends to be highly complex to handle due to the large number of contracts. The second approach is bundling contracts or multi-service contract clusters (Payne, 2000). Here services are arrangedinto a small number of groups based on the different types and technical complexities of services and the different levels of skill, experience and knowledge that are required. Different service bundles will therefore tend to reflect different manpower and equipment availability, and the organisational structure and capabilities of the service provider (Grimm *et. al.*, 1994). The third approach has been pioneered under the title of 'Total Facility Management' (TFM). This is a comprehensive approach to FM service delivery, managed by a single company, where all services are bundled within a total 'managed' service (Payne, 2000; McGregor, 2000), with the client relinquishing direct control of the management of facilities (Alexander, 1995). To some authors, this approaches is considered to be the most convenient and cost effective way to handle all facility services, but there can be major risks of system failure, since everything depends on a single contract, the performance of a single outsourced provider, and the financial viability of its business. Finch (1996) argues that each method of contracting has many variants within it, particularly in terms of risk

apportionment, contractual relationships, incentives, reliability and robustness. No single method can provide a perfect solution for all organisations. The adoption of a particular service delivery approach can affect the role of FM (Bernard Williams Associate, 1994). For example, a total in-house FM arrangement is adopted then it will be unable to avoid the role of service operators alongside other management functions. By undertaking a total outsourcing approach, FM can adopt a role of 'management agent' or 'client representation', co-ordinating and monitoring the work and performance of the external service suppliers.

Management Responsibilities

As the remit and functions of FM have been extended, the management responsibilities of FM have diversified further. At least six functional characteristics that are related to FM have been identified; technical function, the economic function, the strategic function, the social function, the service function, and the professional function (Grimshaw, 2003). Each function has particular concerns and priorities. For example, FM as a technical function tends to be concerned with maintaining the practical utility of the physical infrastructure and plant with emphasis on building, operations, maintenance and repair. FM as a strategic function is concerned with forward planning, the anticipation of change, the acquisition and adaptation of physical infrastructure resources to support organisational developments. In recent years, some FM teams have developed an additional function, that of the 'intelligent client', with responsibility to represent the organisation on all facility and facility management issues, including the procurement and allocation of a significant proportion of the organisation's resources, client representation and providing contingency support arrangements for the organisation (Anderson and Rajagopal, 1995).

It is widely recognised that FM can have responsibilities at both the operational and strategic levels (Alexander, 1994; Thomson, 1990; Barrett, 1995; Nutt, 2002a). Operational FM responsibilities involve meeting and satisfying the current operational support needs of the organisation, while the strategic responsibilities of FM relate mainly to future situations and needs and to the changing demands of organisations over the loner term (Barrett, 1995). Other authors suggesting that FM also operates at a tactical level, particularly in relation to service provision and logistics in the short term (Robathan 1996; Stephens, 1994; Langston and Lauge-Kristensen, 2002). This thesis focuses on the operational and strategic levels of FM support only, since these provide a practical 'real-life' distinction as evidenced in the literature review.

There are two schools of thought about the primary management emphasis of FM. Traditionally, service providers, facility managers and property management professionals

have argued that the primary emphasis of FM should be at an operational level, focusing on day-to-day processes and tasks operations and short-term management concerns (Avis, 1994). From this practical operational viewpoint FM provides a secure, safe and effective working environment which is essential to the performance of any business, whatever its size and scope of works.

The other school of thought, mostly academics, facility directors, senior consultants and FM associations and institutions, argues that FM should also have primarily responsibilities at a strategic level. From their perspective, FM has a strategic function within an organisation, which will directly affect business performance (e.g. Alexander, 1996; Then, 2002). Many authors suggest that FM should provide management services that meet both strategic long-range and short-term operations (Rondeau *et al.*, 1995; Thomson, 1990, Mitchell, 1994), and that the strategic dimension of FM should include responsibility for the long-term planning of essential resources to support the strategic intent of the core business. A further group of authors suggest that FM should have a balance of emphasis between operational and strategic levels of support, undertaking these two roles at the same time, to support both an organisation's current needs and future demands (Nutt, 2004; Barrett, 2000; Grimshaw, 1999). In this sense, FM encompass the functions of management and administration that link strategic and operational issues one with the other (Barrett, 1995).

FM Structure

The structure of a facility department or group in relation to an organisation's structure as a whole, is a critical factor affecting the level of management involvement and its decision making authority and the potential role of FM within the business process (Barrett, 1995; Bernard Williams Associate, 1994). The organisation of FM arrangements should reflect not only the short-term resource needs to deliver agreed FM support levels and services, but also the changing needs of the parent organisation and its long-term plans for development (Cotts, 1999). Given the variety of organisational requirements, it is unlikely that a standard organisational structure for FM departments could be developed (Barrett, 1995), however a basic range of alternatives would be of value and attempts to classify the types of ways in which FM can be organised have been undertaken (Kaya and Alexander, 2005). Their research indicated that the characteristics of FM organisation depend on its relations to the environment, the expectations of personnel, the degree of organisational change that is anticipated, the visibility to customers and procurement options given the availability of service providers, rather than its sector. As a result of their research, a prototype FM organisation classification model was proposed. The model based on 'systems thinking',

suggests nine key factors, including organisational change, customer feedback and visibility of services, personnel's profile, structure of supply chain, hierarchy, formalisation, specialisation, geographical dispersion and relative size of FM, and three classes of FM organisations, which are high criticality/high visibility, low criticality/low visibility, and multi-site high criticality/high visibility. Others have suggested that FM departments might be organised around three basic forms: a services design form, a geographic form of design and customer design form (IFMA, 2001). For example, with the service design, facility groups are organised and structured according to the nature of the services being provided, where as with the geographic form of design, facility groups are organised according to the geographic distribution of work and the location of facility sites. With customer design, facility groups are organised according to the types of service customer groups, regardless of the variety of services provided to the customers.

Many issues need to be considered when organising and structuring FM arrangements. IFMA identifies eleven important factors that should be considered; the ability to meet customer needs, the total number of facilities and locations, organisational growth expectation, the number of employees, the financial status of the organisation, product or service orientation, codes and regulations, company culture and history, outsourcing policy, and the internationalised characteristic of the organisation. The ability to meet customer needs is the most important factor. Two additional factors have been suggested; resource constraints and internal politics (Bernard Williams Associate, 1994). The size and role of an FM department varies according to the extent to which services are outsourced (Bernard Williams Associate, 1994). The more extensive the outsourcing, the smaller FM team, and the greater the emphasis on a co-ordinating management role. Small organisations will tend to rely on a compact administrative FM department, supported by external contractors and consultants, while larger organisations that own freehold facilities may prefer a 'full-service' FM department with their own in-house human resources to support most FM functions. A recent survey of FM organisation in North America (IFMA, 2001) found that a half of all FM teams are situated in an independent department and more than forty percent are part of a larger department, such as Administration, HR, Finance or Real Estate. More than sixty percent of the FM departments surveyed, adopted a functional structure, organised according to the types of services being offered. Given this range of influencing factors, IFMA has found that the size and number of facilities to be managed, the number of construction projects being undertaken, rapid growth of the organisation, and the total number of employees are the most common factors influencing the formalisation of an FM department.

The role and position of FM within an organisation is crucial to facility management practice and to its contributions to core business operations (Stephens, 1994). A number of FM organisation models have been proposed. Some are based on locational characteristics. For example, Cotts (1999) proposes five models of an FM department: the office manager model; the one-location/one-site model; the one-location/multiple-sites model; the multiple-locations/the regional or divisional-headquarters model; and the international model. Others have based their distinctions on the variety of outsourcing arrangements and levels of administrative authority. Bernard Williams Associate (1994) has suggested at least seven different forms of FM department types. At one extreme, he describes the small tradition facilities department focusing on technical issues in which the core management team consists of technically based personnel managing a direct labour force which executes most of the work itself. Another model of the FM group is the organisation of an in-house management team focusing on the interface between the core business and support services, outsourcing most of the technical services. Some organisations adopt a flat FM organisational form, often called an 'intelligent client' structure (Bernard Williams Association, 1994), with a simple management hierarchy within the department with the total outsourcing of all support services. FM departments with this model have high responsibilities for the strategic issues of resource acquisition, allocation and facility policy. This simple 'flat' non-hierarchical structure model requires only a small 'kernel' of core staff, who are constantly aware of the business developments, core operational changes, and the development of strategies to support these dynamic needs.

The linkages between the FM department and an organisation's business management teams can be critical to FM operations and performance. Different corporate attitudes towards the requirements for and the importance of FM result in different relationships between the FM department and the organisation's management structure. Four major types of relationship between FM departments and business management in relation to corporate strategic planning, have been identified (Barrett, 1995):

- 'Administrative' linkage: FM's function is to provide day-to-day operational support, but is considered to be relatively unimportant in the corporate planning process.
- 'One-way' linkage: FM mainly responds to corporate strategic initiatives and changing circumstances, reactively.
- 'Two-way' linkage: FM has a reciprocal and interdependent relationship with those that are responsible for corporate strategic planning. Here, FM is viewed as credible and important, and undertakes a proactive approach with full involvement in the development of strategic plans.

- 'Integrative' linkage: This is the highest level of management linkage in which there is an ongoing and dynamic dialogue, both formal and informal, between the FM planners and corporate planners, with facility managers involved in many strategic business decisions and their implementation.

Each type of linkage reflects a different level of management involvement. Organisations will tend to adopt one of these linkages depending on their management structure, their understanding of FM issues, facility managers' awareness of organisational objectives, and the structure of FM department (Barrett, 1995).

The literature sources reviewed in this section indicated that there are at least four major issues that need to be addressed when arranging FM practices; the scope and remit of FM, support services arrangements, management responsibilities, and the organisational structure of FM. In addition, the review has indicated the variety of FM practices and positions that can be adopted. This section has also discussed different viewpoints concerning the scope of FM and has developed a structured list of FM service possibilities. Overall, this diversity in FM positions and arrangements leads to the following interrelated questions:

- What might be an appropriate FM position for an organisation to adopt at a particular time? How should organisations position their support arrangements generally?
- How can FM support be aligned and structured to meet the changing demands of an organisation?
- How should we select the appropriate range of FM services to meet the requirements of a particular organisation at any given circumstance?

2.4 Linking Demand and Supply

As discussed in the previous sections, organisations can have quite different sets of requirements for their business support environments, and in turn, FM can support them from a variety of different positions. Given this organisational variety and the different ways in which facilities and services may be provided, used and managed, there may be no universal 'preferred' approach to managing facilities (Atkin and Brooks, 2000; Nutt 2002a). While a FM 'best practice' approach can provide a broad framework for practice and help to understand the key factors that are involved, the adoption of a 'best practice' solution can undervalue the diversity of facility types, organisational demands, business sector priorities, contexts and circumstances. The role of FM should be defined in respect to the contingent

needs of an organisation concerning facility issues (Hinks, 2002). Barrett (1995) suggests that facility managers should not merely select service items from a generic list, but provide those services that are specifically needed by a particular organisation. All of these authors tend to agree that FM practices will need to be tailored according to the specific circumstances of a given organisation. A tailored position can enable FM functions, with appropriate authority and delegation, to provide the most suitable support environment for the organisation's core business processes with effective resource management both in the short-term and long-term.

A number of academics and senior practitioners have recognised the importance of linking the demand for and the supply of support functions openly and more directly. Any mismatch between an organisation's demands and FM provisions may lead to under-performance or over-performance in practice and to inefficient and ineffective organisational support generally. An under-performance FM position will tend to provide slow response and to limit the potential to provide proactive response to an organisation's key values and requirements and constrain its success (Stephens, 1994). On the other hand, over-performance FM positions may result in inefficient resource utilisation, wasteful and redundant work processes. The incorporation of FM goals and directives within organisational priorities can maximise the contributions of facility resources and support services to business success, so an appropriate model of facility resources needs to be developed to support the organisation (Langston and Lauge-Kristensen, 2002). These ideas can be categorised into four major groups based on the theoretical approaches that they adopted: the resource management approach, a business management approach, a corporate property management approach, and the services management approach. These approaches are examined and reviewed in this section.

The Resource Management Approach

The resource management approach to the alignment of demand and supply has been well established for many years (Bender, 1983; Johnson and Scholes, 1999; Lynch, 2003), and its potential for considering supply and demand positions within the built environment (Nutt, 1970) and the business support environment (Nutt, 1999) has been set out in detail. Nutt (2004) proposes a 'resource platform' framework to help characterise the resource management profile for any given organisation based on the degree to which FM is responsible for physical, human, financial, informational resources, services and intangibles. The platform utilises the relationship between these basic business resources and a generic resource management process that includes eight major stages; resource planning, procurement, allocation, deployment, utilisation, reallocation, restructuring, and disposal. Based on an identified profile, the framework provides the basis for considering which parts

of the resource management process should be managed by FM team, which not. The framework can also be used to compare alternative management options from which to select a preferred business support solution, characterising the scope and remit of FM. It can help to balance the management concerns and responsibilities of FM on the supply-side with appropriate FM support arrangements that are aligned to business and user demands.

The resource management framework has been developed further by an examination of the six interfaces between the four primary resources, to develop a Resource Model for Strategic Management (Grimshaw, 2003). Other authors have contributed to this approach (Krumm *et. al.*, 1996; Then, 1999; 2003) to produce a conceptual framework for integrating FM services with strategic business planning and operational asset management, under an 'integrated' resource management' framework that links corporate real estate and facility management concerns. This framework is intended to create a continuous dialogue between the strategic management of core business development and the operational management of business resources, aiming to put an appropriate physical resource structure in place that matches demand with appropriate support strategies. By applying this framework, the relationship between the strategic decisions of facilities provision, driven by core business demands, and the tactical-operational decisions of support services provision and their management can be established within a real estate portfolio.

The Business Management Approach

Those that have adopted a business management approach have tended to develop frameworks for FM, that include both operational and strategic levels of management. The ORBIT-2 study, Organisations, Buildings and Information Technology pioneered by Frank Duffy (Davis *et. al.*, 1985) produced an early conceptual framework that can help to inform the development of FM policy and procedures for an organisation. Within the ORBIT framework, FM arrangements can be assessed for their suitability in relation to an organisation's profile, whether it is involved mainly in routine/low change business processes, routine/high change, non-routine/low change, or non-routine/high change activities. ORBIT-2 implies that the predominant type of work and rate of change within an organisation will require different types and levels of FM involvement and support. Four basic management positions were suggested: those with a low level of co-ordination and low staff involvement, low co-ordination with high staff involvement, high levels of co-ordination with low staff involvement, and management positions with high co-ordination and high degrees of staff involvement. Each management position can be suitable in different circumstance. For example, in relation to FM the low co-ordination and low staff involvement position may be

most suitable for organisations that require technical services support at an operational level. In contrast, the high co-ordination with high staff involvement position will tend to be suitable where FM involvement is required in strategic planning and management decisions. The ORBIT study also found that over time, management positions had tended to move to higher levels of co-ordination with greater degrees of staff involvement, as the general rate of organisational change increased.

Barrett (1995; 2000) has developed a generic model of FM practice that maps the linkages between a facility department, an organisation's the core business and the external environment, based on system theory within an information processing perspective. Two major levels of linkage were identified. The model suggests that FM functions will interact with the core business at an operational level by meeting the current needs of every department on a regular basis, and at a strategic level by searching for possible developments within the FM area to respond to the external environment and future business change. This model can assist facility managers in clarifying their strategic and operational linkages with the organisation. Atkin and Brooks (2000) have developed a three-stage framework for developing FM strategy, consisting of strategic analysis, solution development and strategy implementation. Their approach includes the identification of goals and critical success factors, targets, technical and customer-focus strategies, and service procurement strategies. This framework is intended to help to link FM strategy to the organisation's strategic plan, including its strategic requirements for accommodation strategy. It emphasises the issues of service delivery and value for money that can be enhanced through FM strategy.

More recently, Green (2004) has proposed a model for business/support alignment and the management of the business support environment. The model is constructed around three approaches; Business Support Environment, Value Mapping, and Organisational Lifecycles and Effectiveness. The primary purposes of the model are to align the support environment with the needs of the stakeholders, and to predict the dominant aspects of the support environment for the next stage in the development of the organisation. A value mapping technique is used to profile support environment requirements through resource utilisation and organisation cohesiveness. An organisational lifecycle approach is used to predict or forecast business needs at the next anticipated 'change-point' in the future.

The Corporate Property Management Approach

Another set of approaches aims to link the business support environment and organisational demands for support from a corporate property management perspective.

Rondeau *et. al.* (2000) have developed a comprehensive approach, called Integrated Asset Management (IAM) , that attempts to match corporate infrastructure planning and investment procedures with the delivery of corporate services. IAM is a concept that organisations can use to identify the optimum number, types, locations, capital costs and operating expenses for an organisation's business infrastructure, with its asset requirements being driven by business and service needs. The IAM process consists of the identification of the asset need, the provision of the asset, the operation of the asset and the renovation or disposal of the asset, incorporated within the strategic asset plan, the asset acquisition plan, the asset management plan and the asset disposal plan.

An integrative framework for 'CRE portfolio management' has been developed by the Corporate Real Estate Portfolio Alliance in the USA (Varcoe, 2000b). This framework is intended to link the management of the corporate real estate portfolio with the organisation's overall business strategy and its financial performance. The main components of the framework consist of four 'logical' phases: inputs, analysis, outcomes and management, with twelve individual sub-components. The framework can be used to describe the existing and projected components of a real estate portfolio, to analyse the available delivery or change options using the methods of risk analysis, financial analysis, modelling and scenario planning, to determine the most beneficial option, and to ensure that initiatives and plans are achieved in the most effective and efficient manner. This approach to corporate portfolio management has been expanded further to form a management decision process consisting of five main phases: defining portfolio needs; identifying overall goals and strategies; analysing and selecting the options; implementing the plan; and monitoring the selected option to stimulate improvement (Varcoe, 2000b). Here, facility management was included as an integral part of the implementation process.

The Services Management Approach

This approach sets out to link the arrangements for an organisation's support services with the strategic needs of the business. Bennett (2000) used a contingency approach to develop a framework for positioning an organisation's strategy for support services of all kinds, to provide a strategic platform for decisions concerning support services provision. The framework treats support services as operations and decisions as processes in order to achieve a strategic dialogue between operating positions and strategic decisions. Lee (2002) has proposed a model for linking FM services to the core business, adopting a value tree approach. In the model, the linkage to core business is through key issues such as customer satisfaction, business continuity, operating efficiency, and the organisation's key objectives

such as income maximisation, risk minimisation at optimum cost. He suggests that FM needs to understand core business needs, the sources of competitive advantage or value, in order to identify what is critical to the business, its customer and stakeholders. The key issues such as business objectives, the nature of products and services, the processes to achieve them and plans for future growth and development need to be taken into consideration. The requirements for FM and support service can be identified at the end of the process. More recently, McLennan (2004) has suggested applying a service management framework, within the services sector of a national economy, as the primary focus for FM developments in the future. The service management framework is useful in enabling the analysis of facility management processes and activities to be established, with the potential for predictive approaches to the management of occupancy and the use of space to support an organisation's business. Based on this approach, FM could reflect the activities of the business sector in which the organisation is operating, characterised by service demand and delivery, and the extent and closeness of the customer interface.

Each of the four basic approaches that have been examined in this section provide useful conceptual frameworks for linking the demand for and supply of organisational support arrangements, but from different aspects. The resource management approaches provide conceptual frameworks for linking FM concerns with established management theory at a strategic level. The business management approaches concentrate on linking the strategic and operating issues of FM practices to an organisation's core business processes overall. The corporate property management approaches tend to focus on corporate facility planning issues, linking property portfolio management and property investment and value with corporate requirements at a macro level. The service management approaches focus on the structural relationship between support services and organisational needs, largely at the operational level. However, none of these approaches taken alone, addresses the issue of the supply and demand for FM support arrangements, comprehensively and holistically.

2.5 Decision Processes and Techniques

Whatever approach is used to link or align FM provisions with an organisation's business needs, it can be expected that a multi-stage process of investigation and decision will be required to understand the organisation and its needs and to identify possible solutions from which and choosing the best. Although decision making is an integral part of FM practice and an essential component of a facility manager's role (Barrett, 1995), specific decision processes or frameworks for considering key elements of FM practice are rare and

remain largely undeveloped (Nutt, 1999). In contrast, the literature on generic decision processes, search procedures, option comparisons and evaluation, selection and implementation, is extensive. Three specific FM decision processes were identified and are examined here, followed by a review of the relevant generic material. The first FM decision process, as proposed by Barrett (1995), was developed to address two major problems. First, FM managers tend to rely on few secure decision making procedures in arriving at their selection of a preferred management approach, second they tend to lack information about the merits and consequences of alternative courses of action that are available to them. Barrett's FM decision process adopts a managerial position, consisting of four main stages and twelve steps. The process begins with the exploration of the nature of problem, followed by the generation and evaluation of possible solutions, culminating in the choice of a preferred option. The first stage of this process has five steps; sensing the problem, setting initial objectives, identifying problem characteristics, establishing a decision-making body and confirming decision-making process. The second stage involves two steps, collecting and analysing relevant information, and applying creative solution generation techniques. The third stage has five steps, the identification of evaluation criteria, testing feasibility, testing acceptability, testing vulnerability and the selection of a solution. As mentioned above, three basic decision criteria are adopted: feasibility, acceptability and vulnerability. Feasibility criteria are used to evaluate whether there are sufficient physical, human and financial resources available within organisation to implement a solution successfully, including skill requirements, capacity requirements, and the degree of fit. Acceptability criteria are used to measure the relative returns or benefits of the alternative solutions, particularly their potential operational impacts and financial impacts. Vulnerability criteria are used to evaluate the levels of risk, or worst outcomes, that are involved in each solution. The forth and final stage concerns the implementation of the selected solution, including follow-up and control. Overall this process provides a practical method for generating solutions concerning the specific recurrent problems of FM practice, rather than with the decisions of positioning FM generally.

The second identified decision process concerns the development of an FM strategy, business plan and service provision and delivery arrangements (Atkin and Brooks, 2000), based on their framework as discussed section 2.4. The process consists of three main stages with twelve phases. The main stages of their method are strategic analysis, solution development and strategy implementation. The strategic analysis stage covers data collection, service audit and review, assessments of expectations and objectives, portfolio audit, FM resource audit and market audit, aiming to establish an understanding of the current state of organisation's support arrangements and its FM approach. The solution development stage involves the analysis and interpretation of information gained from the first stage and

includes the activities of option generation, criteria assembly, option evaluation, and option selection. In the final stage, strategy implementation, the selected option is developed and implemented through a FM strategy and operational plans, as part of a change management process supported by staff training, resource planning and acquisition. In undertaking each of the three phases, Atkin and Brooks suggest that facility managers apply well established management techniques such as benchmarking, SWOT analysis, risk analysis, optimising model, as appropriate.

The third decision method was developed as part of the ORBIT-2 study for organisations in North America (Davis *et. al.*, 1985). This method is intended to support key decisions concerning facility investment, improvements, management in use, and the management of IT in the buildings. It rests on an objective process that analyses the demand for and capacity of an organisation's facilities, assessing the current and future facility needs of an organisation and its workplace requirements in order to develop strategies for a building's capabilities and for its facility management. ORBIT-2 adopts a comparative rating method, applied to four main stages of consideration: the building, the organisation, IT and FM, all incorporated within the calculation of a building's rating score, followed by a corrective strategy stage with the identification of design options for change, and the analysis of financial options, with a final decision-making stage.

A major objective of this thesis was to develop a decision framework for positioning FM. In order to gain a more fundamental understanding of decision processes the literature review needed to include a selective examination of general decision theory, problem solving procedures and managerial decision processes. Decision making can be viewed as a generic process that is applicable to most forms of organised activity and all associated management planning, design and problems (Harrison, 1999). It is a process for deriving a 'good' or 'best' outcome, solution, return, or result. In business decisions are commonly made in the context of maximising market share, improving quality, reducing costs and minimising risks (Samson, 1988). There is a very wide range of purposes in problem solving and decision making processes (White, 1975). For example, operational decisions may be concerned with the best way to utilise available resources to operate and improve a given system. Technological decisions may be concerned with the design, development specifications, and production of innovatory systems, while policy decisions may be concerned with policy choices relating to business strategy, operational strategy, investment, and to employee, customer and community support.

Decisions can be made in many ways, in many situations and within many different timeframes. There are at least four basic decision situations: decisions by formal methods, decisions by informed judgements, decisions by negotiation, and decisions by inspiration or incremental management (Nutt, 2002c). Formal problem solving and decision taking can be part of a single or multi-stage process of decision, based on deterministic or probabilistic methodologies, with either optimising or satisficing objectives (Ackoff *et. al.*, 1962). Simple decisions are made normally within a single-stage, but with complex issues and most 'real-world' problems, a multi-stage process of decision is usually required (Moody, 1983; Eilon, 1969; Turban, 1988; etc.). Most planning, design, management and governmental issues require a multi-stage approach. There are various views on the process of decision making. Turban (1988) suggests four stages for a decision process, while Harrison (1999) indicates six stages of decision making. Eilon (1969) and Nutt (2002c) suggest a more comprehensive process consisting of eight stages, while Cooke and Slack (1991) propose a nine-stage generic decision process. The number of stages within any decision process will tend to depend on the scope and complexity of the process overall, the level of uncertainty that is faced (Rosenhead, 1989a). Those who consider that the decision-making process ends with the output or solution tend to employ fewer decision stages, while those that consider that the decision process should include implementation, monitoring and adjustment, will tend to suggest a longer decision process or cycle of decision (Noorderhaven, 1995, Harrison, 1999). Most authors suggest that at least six generic stages or activities should always be included within any given decision process. These stages or activities are:

1. Understanding the Problem and its Structure
2. Identifying and Generating Options
3. Option Analysis and Evaluation
4. Selecting a Preferred Option
5. Implementing the Selected Option
6. Feedback and Review

Understanding the Problems is the first stage of the generic decision process. The process begins with the exploration of the nature and structure of the problem, its sub-problems, variables, parameters and constraints and the clarification of the objectives that the organisation or decision maker has in initiating the decision process. An objective refers to the specific states or conditions that an organisation wishes to attain, defining the purposes, directions and priorities within the decision process overall (Harrison, 1999). The activities at this stage include problem recognition, clarification, understanding, the setting of objectives

and the collection of information and data about the problem area and its characteristics (Cooke and Slack, 1984).

The second stage is the identification and generation of alternative options, a creative process involving the search for information from which to fashion alternative options (Harrison, 1999). Options refer to the alternative courses of action between which the decision maker is to choose (Cooke and Slack, 1991) and are normally generated by listing available courses of action, searching for alternatives, developing hybrid solutions or inventing new opportunities. The number of options to be investigated is an important decision in its own right, anything between two and many. The number of options needs to be limited depending on the availability and cost of information, the expertise required in the problem area (Turban, 1988), the time and resources that are available to search options, and the decision criteria that can be used for rationalising the search process (White, 1975; Turban, 1988). Alternative options may be described in two ways: first, the possible set of options is made explicit, with each paired alternative needing to be compared and evaluated exhaustively, second, the desirable set of options is defined via a system of constraints within which a systematic search for feasible solutions needs to be undertaken (White, 1975). Four typical option solutions are commonly encountered: a fully developed set of options is available at the start of the decision process, a full set of developed options is available within the environment of the decision but needs to be discovered during the decision process; a customised set of options needs to be developed specially for the decision process in question; and a set of ready-made options needs to be modified or extended with some customised features (Cooke and Slack, 1991; Mintzberg *et. al.*, 1976).

The third stage in a six part generic decision process, focuses on option analysis and evaluation and their methods and techniques that can be employed. An extensive range of quantitative techniques are available, particularly within the field of operational research (Schwartz, 1984; Cooke and Slack, 1991; etc.). These employ mathematical and statistical methods in different generic areas of application, such as linear programming models, queuing theory and resource allocation models, competitive or game theory models, heuristic decision models, simulation models, decision tree analysis, etc. Linear programming is the best-known form of an optimisation model, dealing with the problems associated with the optimal allocation of resources among competing activities (Turban, 1988), the determination of the 'best' outcome, the optimum value of a decision variable (Schwartz, 1984) or the identification of solutions with maximum benefit or minimum risk or cost. Game theory models have been developed to inform the decisions in competitive problem situations, optimising the value of their outcomes and minimising the chances of losses. Simulation is a

decision-making technique used to explore the behaviour of a system or the consequences of a decision or action through mathematical modeling, prior to implementation in the real world. It is an exploratory and predictive approach rather than an optimising technique (Cooke and Slack, 1991). A simulation model is normally structured around a process or set of procedures that describe the logical relationship between all problem elements, variables and constraints. They are particularly valuable for investigating and managing complex systems and dynamic situations. Decision trees techniques help to manage uncertainty and risk in situations where decision makers are presented with a number of options, stages of decision or courses of actions, but each with associated uncertainties about the risks and benefits that they may entail (Cooke and Slack, 1991; Moody, 1983). This technique employs probability analysis and statistical techniques to identify the chances of partial failure or relative success for each sequence of option in the form of a decision tree, assisting the decision maker to select the best possible course of action overall. In addition, it enables sequences of decisions to be represented and the consequences of future decisions tracked back to assess their influence on the present stage of decision. All of these models depend on rational assumptions concerning the objectives and behaviour of the decision makers, the time horizons under consideration, and the formal nature of the problem structure and the decision process itself. In many situations it is difficult or impossible to achieve optimal solutions, decision makers might adopt satisficing and heuristic approaches. Heuristic modeling is a decision-making approach that uses 'rules of thumb' and satisficing criteria in the search for a secure and satisfactory solution. Here, there are a variety of 'soft-system' methodologies that can be adopted when the more quantitative mathematical approaches cannot be used (Rosenhead, 1989b).

Option evaluation requires criteria on which judgements can be based. Criteria may be selected or adapted from generic lists (White, 1975; Rosenhead *et al.*, 1972) but the selection of an appropriate set of criteria will depend on the fundamental nature of the decision situation, the purpose of the decision process, and will need to be compatible with the desired outcomes and possible consequences of the results. The choice of criteria will depend on whether the area of decision has single or multiple objectives, whether it involves a single or multi-stage process and whether there is a dominant criterion or a number of criteria that need to be employed. Traditionally, the relative complexity of decision situations have been categorised on a low uncertainty-high uncertainty scale and on a low-risk to high-risk scale. In circumstances with low uncertainty and low risk, decision processes tend to be deterministic, supported by reliable and full information, aiming to meet very clear and simple objectives with an understanding of what the likely outcome of alternative courses of action would be. In contrast, in high uncertainty and high risk situations, only partial information is normally available, outcomes are unsure and the decision maker needs to adopt a probabilistic

approach. When the level of uncertainty is very high, then it may be more logical and practical to keep a range of options open for the future to take decisions in an incremental step by step fashion, maintaining flexibility with which to respond to the uncertainties of the future (Braybrooke and Lindbrom, 1963; Rosenhead, 1989a). The decision situations can affect the selection of decision criteria (Rosenhead *et al.*, 1972). For example, in a certainty situation, where no element of chance intervenes between decision and outcome, with a single objective, the simple optimisation can be applied as criteria. In contrast, the risk situations where the link between decisions and outcomes is probabilistic, the optimisation criteria may not be practical and will tend to ignore possible variations of outcomes. A range of criteria may be needed to cope with this situation.

The best decision criteria for use in the short term may not be the best for longer term decisions (White, 1975). For example, although cost is normally referred as a typical criterion in any decision process, optimising cost is not always an effective or secure decision criteria for long-term planning (Rosenhead *et al.*, 1972). The concept of optimality tends to be limited to profit maximisation or cost minimisation in the short term, it tends to distort option evaluations in multiple objective situations and profit maximisation does not necessarily provide a true representation of the aims of organisations and their management over the long term. There is no single criterion that is appropriate universally. For instance, in developing its business structure, organisations may use the criteria of steady-state efficiency, operational responsiveness, strategic responsiveness, decision and information quality, financial feasibility and human resource availability (Ansoff and Brandenburg, 1971). In coping with long-term decisions such as planning and strategic problems, organisations may be wise to use a basket of criteria associated with flexibility and robustness rather than financial achievement alone (Rosenhead *et. al.*, 1972). It is essential that the selection of short-term criteria is compatible with the long-term criteria and additional criteria that may be required in the future.

The fifth stage of a generic decision process is the selection of a preferred option, solution or course of action. This stage involves the application of formal and informal criteria to generate preferences between options, consolidating opinions and judgements, in order to decide on the most appropriate course of action to adopt. The selection process may look for the 'best' or a 'good' outcome based on the optimising and satisficing logic as mentioned earlier (Turban, 1988). Furthermore, both short and long term positions may need to be considered so that longer term advantages are not sacrificed for short-term gains (Rosenhead, 1989a).

The two final stages of a decision process are concerned with the implementation of a decision and the subsequent appraisal of its impact, influence and effectiveness. Characteristically, this can involve post-implementation studies, monitoring and auditing arrangements, performance evaluations and periodic review. Appropriate actions have to be undertaken to ensure that the decision is properly implemented as intended and that suitable management skills and arrangements are in place (Cooke and Slack, 1991) with the commitment of the senior change agents (Harrison, 1999). The implementation stage can usually be treated within a project management approach (Maylor, 2003), where there is a need to ensure that the decision is implemented with adequate resource and within quality targets and clearly defined plans (Harrison, 1999; Noorderhaven, 1995). Formal and informal feedback arrangements are usually required at this stage so that outcomes and achievements arising from the decision process may be evaluated against the original purpose and goals (Noorderhaven, 1995). Successfully implementation requires that the decision makers receive sufficient information to indicate the degree to which the actual outcomes of the implemented decision compared with the initial objectives (Harrison, 1999). The decision makers might then consider adjusting, modifying, correcting or aborting the implementation process according to the feedback information and its evaluation.

Performance indicators have become a key tool for gaining feedback information and reviewing the success of an implementation process. The final part of this literature review summarises this area of development specifically in relation to facility management performance issues. First, performance measurement systems can help to evaluate the effectiveness of FM practices, second it can be used to link the needs of the organisation with support provisions. In recent years, it has been recognised that performance measurement systems can be used as a tool to support decisions at both operational and strategic levels (ref: Hinks). At the operational level, performance measurements have been used to identify the areas for cost reduction, service improvements and for efficiency gains in the short term (Nutt, 2002a; Hinks 2002). However, in relation to cost, it has been found that seeking lowest cost solutions can lead to a deterioration in the quality of services at an operational level, and management responsiveness at a strategic level (Gilleard and Yat-lung, 2004). At the strategic level, it has been claimed that performance measurement can be used to directly link FM functions with the core operations and objectives of an organisation and its business strategy (Hinks, 2002), helping to demonstrate the importance of facility management arrangements for the organisation. In turn, it should assist the organisation to achieve optimum services delivery, both in quantity and quality to meet its business needs. In practice, performance measurement helps to assess the relative success or not of FM practice, and indicates the

efficiency and effectiveness of the FM's team performance overall (Bernard Williams Associate, 1994).

There are two basic questions concerning performance measurement: which method to adopt and which aspects to measure. Hinks argues that the crucial issue of performance measurement is to measure the important aspects only (Hinks, 2002). Similarly, Nutt suggests that it is essential to identify an aggregated level of measurement and to use only a few critical performance indicators concerning specific FM support management functions. Measuring too much or in too much detail or inappropriate issues, may have negative impacts such as inappropriate use of time, wasted resources, distorted management objectives, and unattainable and unsustainable performance expectations. Others believe that the potential of FM performance measurements is to improve operating efficiencies of all kinds (Mitchell, 1994). Ideally, FM performance measures need to relate to business performance and business value (Hinks, 2002; Lee, 2002). The key issue here is how to develop an appropriate FM performance framework that links directly to relevant organisational and business objectives, their operational processes, and to user and employee support requirements (Mitchell, 1994; Grimm *et. al.*, 1994; Dickson, 1994; Nutt, 2002a; Loosemore, 2004). In his value tree approach, Lee proposes that FM performance measures should be assessed against specific organisational objectives such as income maximisation, optimum cost, minimum risk, customer satisfaction and retention, business continuity, and flexibility (Lee, 2002). He also suggests in a broader context that performance measurement of community benefits could also be included. Performance objectives related to effectiveness and productivity would also be beneficial to enhance FM practice, but they are difficult to achieve.

Two main types of tools have been used to indicate and measure FM performance. They are Key Performance Indicators (KPIs) , quantitative measures of the performance of FM support arrangements and the service supplied, and Service Level Agreements (SLAs), qualitative specifications of elements and levels of service that the provider has to achieve (Atkin and Brooks, 2000). Hinks and McNay suggest seven performance dimensions for FM relating to business operations and support, equipment, space utilisation, change management, maintenance and general services performance (Hinks and McNay, 1999). The potential range of KPIs for FM is extensive (Hinks, 2000) and comprehensive computer based performance systems are being developed (Craig *et. al.*, 2006). Other have attempted to apply available techniques such as 'Balanced Scorecard' (Kaplan and Norton, 1996), Total Quality Management (Gatiss, 1996; Bank, 1992), and Benchmarking (Leibfried and McNair, 1994) as general performance framework and indicators to improve for facility management practices. The 'Balanced Scorecard' approach, for example, provides facility managers with a broad

framework that can translate an organisation's strategic objectives into a coherent set of FM performance measures (Alexander, 1995; Atkin and Brooks, 2000). These authors suggest that FM could customise the balanced scorecard approach, incorporating key FM goals and performance measures that directly link to overall business performance, developed for a particular organisation, and made relevant to its specific business practices and objectives (de Valence, 2004). The key issues here are what is the appropriate set of performance indicators? What is the appropriate extent of performance measurement? What mix of operational and strategic or business performance indicators should be used for FM performance measurement?

Summary

This chapter has provided background information, concepts and opinions relating to the research topic by reviewing relevant literature and clarifying the areas that may need to be explored. The key points and findings from the review can be summarised below.

First, the issues of organisational support were discussed generally, from a number of theoretical viewpoints; those of work support, services management, resource management, business support management, corporate infrastructure management, urban and community FM, and support environment. A range of FM definitions and organisation support concepts that organisations might be adopted, were discussed. Each of them represents a different scope, focus and prioritisation of support arrangements. The variety of these viewpoints reflected the multi-disciplinary nature of organisational support and the range of its arrangements. There is no evidence of a study describing how organisations adopt these concepts of organisational support.

Second, the issues of organisational support requirements were discussed. It was indicated that the organisational support requirements for facility resources, support services and FM arrangements tend to vary with organisational types and characteristics, locations and business circumstances. In-depth studies concerning the relationships between FM practice and organisational characteristics and context were rarely found. The key factors concerning FM arrangements have yet to be examined. Most notions about the relationship tended to be based on theoretical considerations so there is a need for empirical evidence. Moreover, as discussed in section 2.2, organisational support requirements tend to change over time and the relationship between organisational change and FM change and the dynamic of FM generally, have yet to be studied in detailed. The literature review has confirmed that there is a consensus of opinion that the alignment of the FM function to the core business of an

organisation is a crucial matter. It has also indicated that there is a generally held view that FM arrangements need to meet the specific requirements of a particular organisation and its sector rather than a standard form of FM support arrangements to fit all organisational types and circumstances. This implied the need of understanding and method for linking FM arrangements to organisational characteristics.

Third, alternative support arrangements were explored. Four major issues concerning FM arrangements were discussed: the scope and remit of FM, support services arrangements, management responsibilities, and the organisational structure of FM. It was found that there are a variety of arrangement positions that FM can be adopted. Here, the issue of selecting appropriate or suitable position was implied. The review has also found that the arrangements of FM practice tended to be considered discretely, with few integrative approaches for considering FM arrangements overall. Most discussions about FM arrangements tend to focus on FM service delivery and operational arrangements. In addition, there was no evidence of research relating to positioning FM.

Forth, the available approaches for linking FM demand and supply were examined. These approaches were grouped into four main groups: resource management, business management, corporate property management, and service management. The frameworks within resource management approach seem to provide the broadest idea for linking FM support to the organisational needs at a strategic level. The need for a secure framework for identifying and choosing appropriate FM arrangements for the particular organisation is commonly concerned as it is recognised that FM practitioners would benefit from additional decision tools for identifying FM position, rather than using an intuitive. However, the literature review was unable to uncover any specific frameworks or systematic decision tools addressing the issue of FM support arrangements comprehensively and holistically. It would appear that there are no available methods that are both theoretically secure and practically useful. Some authors provide general conceptual models that are relevant to the positioning process but these tend to be partial in relation to the issues that need to be considered. Furthermore, they lack systematic methods, procedures and decision criteria for positioning FM in different circumstances.

Finally, this chapter selectively examined three FM decision methods and reviewed the essence of generic decision processes. It was found that the available methods may be useful to support FM decision making generally, but were not specifically developed for application to the positioning issues. To gain a more fundamental understanding of decision process this chapter has reviewed the literature concerning general decision theory, problem

solving procedures and managerial decision processes. In the following chapter, the findings from these reviews will be used to develop the conceptual basis for the research, setting out a theoretical framework for positioning FM.

Chapter 3

Theoretical Basis

The literature review, as described in the previous Chapter, gave support to the basic research propositions that were introduced in Chapter One (page 8). It confirmed that there appear to be no established generic models or practical decision tools to assist in the FM positioning process of selection, implementation and modification and that an explicit framework, with criteria and methods for positioning FM, has yet to be derived and developed to cope with the diverse circumstances that are faced by organisations around the world. The literature review did uncovered various concepts and approaches that help to link organisational needs with FM practice provisions. These concepts and approaches tended to be partial and relatively undeveloped. None provided a comprehensive explanation or a secure theoretical model to support the development of a practical framework for positioning FM. Ideally, any theory or approach for FM positioning should be capable of considering all major relevant factors in a holistic way, determining the balance of support between the operational and strategic needs of the organisation, and taking into account the range of changes that might occur in the future. It should also provide a rigorous and comprehensive overview of the variety of support arrangements, management measures and practices that should be considered, including the possibilities for new initiatives and innovation.

In order to research the idea of positioning FM further, a cohesive theoretical concept of the positioning decision process needs to be developed. The use and importance of a theoretical framework to support research are described by many authors (Yin, 1994; Miles and Huberman, 1994; Ticehurst and Veal, 2000). First, the theoretical framework provides an essential base to guide the research in a specific area, helping to understand the problem structure and the identification of the key variables to be studied (Kumar, 2005). Theoretical framework will indicate the relationships between the key variables of the study, how they might be identified and measured, providing a map for method selection, data collection and

analysis (Yin, 1994). The framework can be developed from existing theories, new fundamental insights, the experience of the researcher, informal observations, and the general objectives of the study (Miles and Huberman, 1994). The theoretical basis for the research is developed in this chapter, with the detailed methodology described and discussed in Chapter Four. This chapter sets out to identify the main issues and key variables and constraints within the positioning process and their general relationships one with another, using the knowledge gained from the literature review, expert opinion and practice experience. It begins with the development of the general concept of positioning FM, the nature of positioning and the recurrent factors that are involved. The main defining attributes of FM support arrangements and practices are also explored. The conceptual ideas and decision process introduced in this chapter are developed further in Chapter Seven in the light of the empirical evidence from the case investigations as described in Chapters Five and Six.

3.1 The Basis for FM Positioning

First, it is essential to clarify the concept of FM positioning in the context of this research study. Positioning FM is a process of consideration, discussion and decision to identify and select a set of management support arrangements to match organisational requirements within a given context. Support arrangements and their associated FM practices must have the potential to satisfy the needs of the organisation over both the short and longer term. So the positioning decision process must have a major strategic dimension in addition to operational concerns such as the sourcing of services and tactical responses to changes in the FM skills market. Most importantly, positioning FM is also concerned with the issues of that can link FM arrangements with the external social, economic and cultural environment and its context. Appropriate FM support arrangements, with a sufficient resource base, skills and level of authority, should encourage good FM practices with appropriate balance in management orientation and remit to satisfy the organisation's short and long-term needs and to reduce the risks of operational and strategic failures of all kinds.

The underlying hypothesis of the research is that in order to provide effective and efficient organisational support, FM arrangements need to be selected in a more rigorous, a more comprehensive and more systematic way in relations to the specific circumstances, strategies operations and context of business support requirements. Therefore, the thesis argues that FM should adopt a contingent approach rather than any standard or 'best' practice approach. While a standard 'best' practice approach may be useful for achieving cost-effective operations and services (Porter, 1985), the approach tends not to take the account of the changing nature of organisations and the changing context in which they operate (Bennett,

1999). Bennett has criticised its tendency to ignore the specific relationships between organisational support requirements and their changing context, which can result in insecure strategic capabilities and can jeopardise long-term performance.

Based on the literature review, it should be expected that the factors affecting the positioning process will be of two kinds: those that relate to either the 'internal' or to the 'external' issues and circumstances of a given organisation. The internal factors relate to the nature of the organisation, its business strategy, organisational policy, business operations and culture. These factors tend to directly influence an organisation's requirements for facility resources and support services, contributing to the demand situation to which the FM team has to respond. Furthermore, these internal factors will tend to be unique to a particular organisation at a particular time. The second group consists of a wide range of external factors which are normally not controllable by the organisation and its facility management team. These external factors can generate both constraints and opportunities for FM practice, but to a considerable extent they be common for all similar organisations in the same sector, region or country. However, some of these factors will be more localised, such as the property market and the availability of FM skills, services and suppliers. So in order to establish the grounds for positioning FM, a detailed understanding of these internal and external factors, their possible influences and impact is of vital importance.

Positioning FM is based on the premise that different organisations, different sectors and different circumstances will require a different balance in management support arrangements in relation to functions, responsibilities and priorities. Given the diversity of FM practices and organisational needs, the repositioning of FM may be needed from time to time in order to maintain consistency between an organisation's dynamic requirements and the balance of emphasis in management support arrangements. From a theoretical viewpoint and confirmed by the literature review, FM provides management support for organisations at two levels; at both the operational and strategic management level. FM practice has to strike a balance between its operational support to day to day work processes and activities and strategic support to the organisation's long term plans and developments. So operational support refers to the ability to handle routine facility operations and service delivery to meet all needs, while strategic support refers to the ability to sustain an organisation's business processes and operations over the medium to longer term (Nutt, 2002a; Barrett, 1995). The balance between operational and strategic management support may need to change over time (Nutt, 2002a). For example, when organisation is small with limited facilities, operational support will be the bedrock issue and the need for strategic support from FM will have low priority. In contrast, as an organisation becomes larger with high rates of change it will tend to

require more complex and responsive FM support at a strategic level. Therefore, FM will need to balance and adjust its support, providing secure short-term operational support together with long-term strategic support with which to face and manage changing circumstances and conditions. So overall, FM arrangements will need to be flexible, responsive and dynamic, and be capable of modification, adjustment and repositioning, in order to accommodate 'internal' organisational changes and 'external' contextual changes of all kinds.

The literature review, as discussed in section 2.3, showed that while the functional characteristics of FM can be defined in many ways, five general primary functions can be commonly identified; FM strategy, planning and programming, administrative management, service operations and client representation. In any circumstance, FM might focus on one or a combination of these five general functions depending on the organisation's specific set of needs. FM's strategic function involves strategic management issues concerning the acquisition and deployment of physical resources and support services over the longer term, including the development of FM policy, the selection of facility and facility management arrangements and contingency measures with which to prepare for organisational and market changes. FM's planning and programming functions link these strategic concerns to mid-term management issues concerning the allocation and utilisation of space, services and equipment to support business objectives and user needs through time. FM's administrative functions centre on the management, coordination and control of all facility operations, support services and associated routine activities, together with a very wide range of ancillary duties as indicated in Figure 2(1) on page 29. The forth and most common set of FM functions, relates to service operation management and responsibilities for support services delivery whether in-house or outsourced, building services, maintenance and repair, user and customer services and office services generally. Finally FM functions can include client representation responsibilities on behalf of the organisation for all matters concerning facility resources and support services, their acquisition, negotiation, procurement and disposal. Within these five basic functions at least nine generic areas of responsibility can be commonly defined in relation to the list of generic FM remit as illustrated in Figure 2(1) on page 29; real estate and property management, planning and programming, space planning and management, project management, general administration and management, maintenance, building operations and services, office services, and employee and support services.

Within any given combination of FM functions it is to be expected that priorities and emphasis will vary from case to case. For example, priority may be given to the issues of business continuity, resource availability for business operations, financial performance, facility operation continuity, physical appearance, operating cost performance, health and

safety and security of customer and employee, public and community support, etc. (Alexander, 1996; Atkin and Brooks, 2000; Kincaid, 1994). The set of organisational priorities in a particular case will influence the general orientation of FM practice and can serve as a useful indicator of the type of support arrangements that are required. On the other hand, a profile of FM priorities can be used to examine and understand the current focus of FM, which in turn can be used to indicate the areas where an adjustment of priority may be needed.

In order to be able to discriminate between different FM positions the research needed to select a number of defining attributes. This approach has been used in the past to examine and characterise different FM practices (Becker, 1988; Loosemore, 1998). In studying the ways in which FM is organised and changed, Becker selected nine aspects of FM practice for detailed investigation. They include organisational structure, involvement in corporate planning, the level of decision authority, involvement in the briefing and planning process, the range of expertise available, space policy, the degree of employee involvement, environmental evaluation and furniture policy. In examining the relative criticality of FM arrangements for an organisation's core business, Loosemore studied the diversity of FM circumstances with reference to FM's role, scope, interaction, authority and performance measures. Based on these ideas and the range of FM characteristics that were identified through the literature review as described in section 2.3, a preliminary set of eight basic attributes was selected to help profile different FM positions. The eight distinguishing attributes are: FM purpose and policy, FM scope and responsibility, the primary role of FM, the level of management involvement, decision timeframe, FM structure, service delivery arrangements, and measures for performance accountability.

This section has attempted to clarify the conceptual basis of an FM positioning process. It has suggested a contingent approach that recognises the influence and importance of both 'internal' and 'external' factors and the need for a dynamic balance between operational and strategic concerns as circumstances change. A number of basic FM functions, general areas of responsibility and priority concerns have been suggested, together with eight primary distinguishing attributes through which an FM position may be characterised. Finally, it should be noted that it is to be expected that the selection of an FM position will result from a multi stage process of decision based on generic criteria and organisation's specific criteria, with the preferred FM arrangements being chosen to reconcile any gap between the supply and demand for facility resources and support services, based on an organisation's current and anticipated requirements.

3.2 The Conceptual Process

The use of a conceptual framework to describe the theoretical aspects of a domain of study is very common (Bryman and Bell, 2003). Typically, a conceptual framework provides a graphical description of a 'research area', its main components, the main defining factors and their interrelationships, indicating how the researcher views the theoretical basis for the study overall(Ticehurst and Veal, 2000). A general conceptual framework for positioning FM is shown in Figure 3(1) in the form of a process of consideration, starting on the left and concluding to the right.

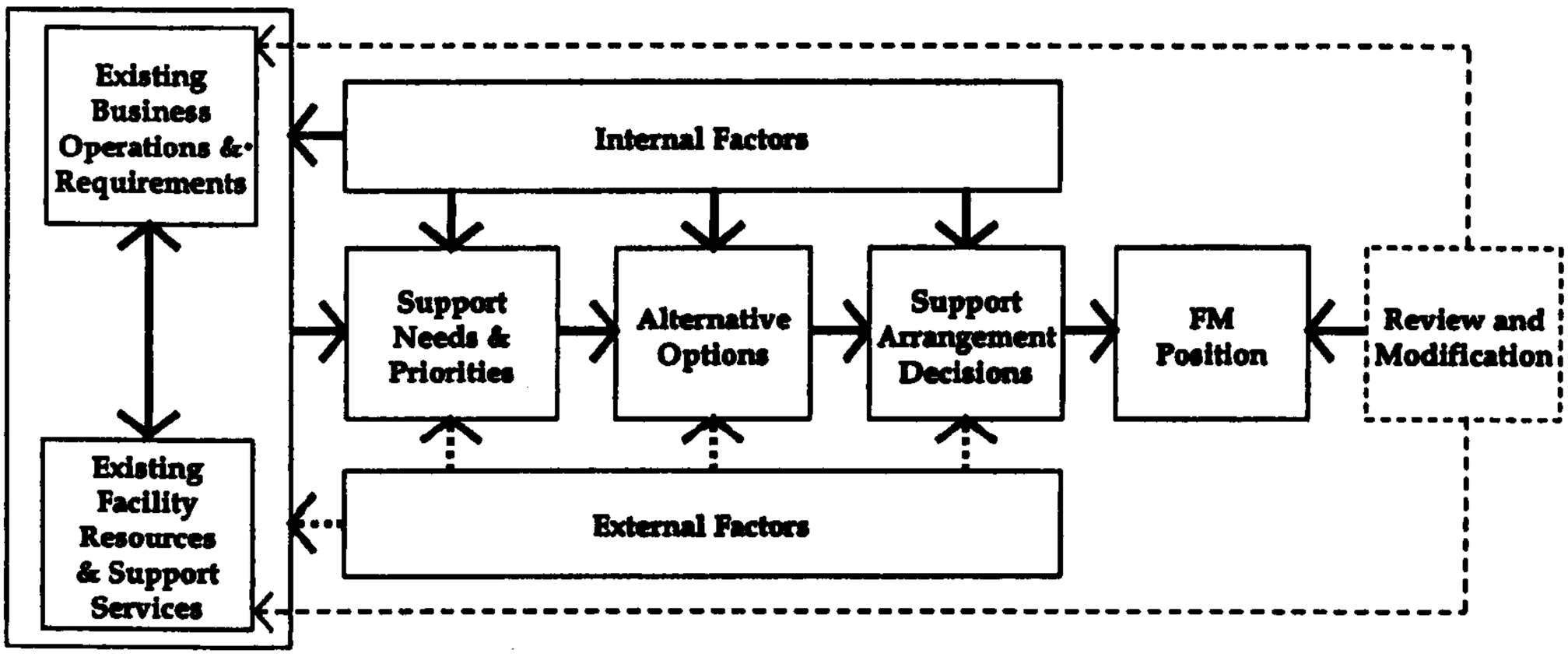


Figure 3(1) Conceptual Process for Positioning FM

The framework is constructed as a five-stage process. The process starts with an examination of an organisation's business operations and its current support requirements together with a review of the current facility resources and support services that are provided. This first stage identifies any deficiencies in organisational support and any gaps between the supply and demand for operational and strategic support. The second stage in the conceptual process involves a thorough investigation and analysis of the organisation's current and likely future support needs in relation to all major internal and external influencing factors. Here the relative importance of the different facets of the support environment need to be clarified, prioritised and agreed. The third stage in Figure 3(1) involves a systematic search for alternative FM support arrangements that appear to be suitable to meet the predicted requirements and the generation of hybrid or novel options where appropriate, again in relation to all relevant internal and external influencing factors. In the forth stage of the conceptual process, alternatives are compared and evaluated, based on the organisation's criteria and decisions made on the preferred set of support arrangements. Ideally, at the end of the first four stages of the process, this decision should be sound, contingent and viable,

having been scrunitised in relation to all relevant internal and external factors. The new FM position is then implemented in Stage 5. In order to cope with the dynamic changes in organisational support requirements, the conceptual process shown in Figure 3(1) includes a review and modification element at the end of the process through which repositioning can be triggered in the future.

Overall, the conceptual process shown in Figure 3(1) illustrates that the needs and priorities for organisational support, option generation and the selection of a preferred set of FM arrangements, are all affected by the internal factors of the organisation and the external factors of the economic, social and market context. Furthermore, the conceptual framework suggests that internal factors will tend to directly influence the positioning process, while the external factors are more likely to have only indirect influence to the outcome.

3.3 FM Position Profiles

Deriving an appropriate profile of FM arrangements and their attributes is the central crucial concern throughout the process shown in Figure 3(1). The literature review indicated the wide range of positions that FM can adopt in practice, as discussed in Chapter Two. The research developed a summary account of FM services, clustered into nine main groups, as illustrated in Figure 2(1) on page 29. This diagram consolidates the work of other authors who have produced inventories (BIFM, 2002; Cotts, 1999; Jordan, 1994), groupings (Kennedy, 1996; Bernard Williams Associate, 1994) and general classifications (Kincaid, 1994; Thomson, 1990) of the range of services for which FM can be responsible. However, the literature review uncovered no authoritative methods that could be used for profiling and describing the set of FM support arrangements and responsibilities in a given situation. A conceptual basis for profiling any FM position in relation to its resource management responsibilities has been proposed (Nutt, 1999; 2000) and developed (Grimshaw, 2003). This method, which is at an early stage of development, helps to profile the extent and the proportion of an organisation's resource base for which the FM team is directly responsible. It also helps to profile which parts of the generic resource management process are within the remit of a particular FM arrangement, which not (Nutt, 2004). The conceptual FM profile of Loosemore (1998), as mentioned above, was found to be useful in mapping organisational support arrangements and the emphases given to the aspects of FM. While all of these approaches are relevant to the profiling of FM services, resources and emphases, they do not relate holistically or explicitly to the FM arrangements and positioning process overall.

In this research, FM arrangements have been profiled through eight sets of attributes, ranging from FM purpose and policy, FM scope and responsibility, the primary role of FM, the level of management involvement, decision timeframe, FM structure, service delivery arrangements, to performance measurement, as discussed above. Within each set of attributes, alternative positions can be distinguished based on the results of the literature review. Summary descriptions of these eight defining attributes are described below:

- **Purpose and Policy;** describing the main orientation and emphasis of FM practice. At least three basic sets of FM purpose and policies are commonplace. First policies can be predominantly Facility-oriented, focusing on building management, operational costs, maintenance and repair. Second policies may be Work-oriented, focusing on the co-ordination of all workplace supports and services to meet organisational and staff needs. Third, policies can be Business-oriented, focusing on aligning facility resources and services to support the organisation's business goals and operational strategy directly. Many other FM policy orientations are adopted in different sectors, and policy innovations should be expected as FM practices continue to develop and diversify.

- **Scope and Responsibilities;** describing the scope and range of resources and services that are included within the FM remit as discussed above. The range of management responsibilities can be characterised as having Limited Scope mainly covering routine support services for internal customers, or Selective Scope covering a wider range of workplace resources and support services, or an Extensive Scope that is responsible for most of the organisational support environment, and its physical resources, together with a wide range of business, employee and customer services. Further extensions to the scope of responsibilities, both tangible and intangible, have been predicted by many authors (Green, 2004; Nutt, 2004).

- **Primary Role;** describing the predominant characteristics of the FM task. Three basic types of role can be identified with emphasis on the Operational Management of routine tasks and services, or the Management Coordination and partial integration of all FM functions and services, or the Strategic Management of business infrastructure, resources and services with responsible for long-term planning. Other FM roles should be expected to be adopted to support different policies, as FM requirements and capabilities in the future continue to diversify.

- **Management Involvement;** describing the level of FM involvement within an organisation's management structure overall. The level of management involvement and

its communication links to core business management may be characterised as Low Level Management, part of operational management and administration, Middle Management Level, part of the organisation's line management structure, and High Level Management, part of the senior management hierarchy. The Low Level management positions tend to have a one-way communication linkage with business management, while those in middle and high management positions have more participation in business management meetings and decisions with a two-way reciprocal communication linkage (Barrett, 1995).

- **Decision Timeframes; describing the predominant time horizon of concern and decision making authority.** Decision-making situations can be characterised as: Short-term decisions, typically concerning issues and responsibilities within a one year time period or less, Medium-term decisions, typically concerning one to three years ahead including most tactical planning and service procurement issues, and Long-term decisions, typically beyond a three year time horizon concerning long-range strategy, resource planning, facility investment, acquisition and disposal.

- **FM Structure; describing the organisation of FM arrangements within an organisation** based on the degree of functional integration. Three general types of FM structure can be distinguished: a Fragmented Arrangement where facilities and services functions are distributed across many groups or departments, Integrated Arrangement where facility and service-related management functions are consolidated within one department, and Highly Integrated Arrangement where all business infrastructure, property procurement and facility-related functions are located within one division of an organisation. Other forms of FM structural arrangements should be expected as part of innovations in FM support provisions.

- **Service Delivery; summarising the characteristics and methods of service delivery** arrangements. Three types of arrangement can be distinguished: Dis-sagregated Arrangement where individual services are managed and delivered separately; Packaged Arrangement where services are bundled into a small number of major groups based on their characteristics and the types of skill required; or Totally Integrative Arrangement where all support services are delivered by one source within a TFM contract. Within the three arrangement types there are many combinations of outsourced, part-sourced and in-house forms of delivery and service partnerships.

- **Performance Accountability; summarising the arrangements for the measurement and** management of performance. Performance measurement systems can be limited or

extensive, ranging from General Performance Measurements, to Specific FM Performance Measurements to Business-related Performance Measurements. General performance measurements are normally part of the basic management responsibilities for the utilisation of resources, operational performance and service delivery. Specific FM Performance Measurements involve the use of key indicators of FM management performance, accountability and improvements based on management progress and achievements overall. Business-related Performance Measurements tend to focus on strategic performance measures where infrastructure, facility resources, support services and FM effectiveness is evaluated from a business and organisational perspective, usually in terms of productivity, efficiency, corporate responsibility and competitive advantage.

These eight sets of management attributes and their combinations, taken together with the theoretical basis for characterising the facility support services platform as mentioned earlier, provide a conceptual basis for profiling FM support arrangements in any particular case or specific set of circumstances. This conceptual basis is shown in Figure 3(2) in the form of an arrangement matrix. On the horizontal axis, the matrix covers the eight sets of management attributes: purpose and policy, scope and responsibilities, primary role, level of management, decision timeframes, FM structure, service delivery arrangement, and performance accountability. The attributes and resource profiles can be used collectively to help to position and align FM to one of three major levels of management remit overall: Basic, Consolidated and Comprehensive, as shown in the vertical axis of Figure 3(2) and described below.

FM	PURPOSE AND POLICY	SCOPE & RESPONSIBILITIES	PRIMARY ROLE	MANAGEMENT INVOLVEMENT	DECISION TIMEFRAME	FM STRUCTURE	SERVICE DELIVERY	PERFORMANCE ACCOUNTABILITY
LEVEL 3 COMPREHENSIVE	BUSINESS-ORIENTATED - Focusing on the alignment of facility resources and services to support business strategy -Managing the integrated business support environment -Optimising business performance, creating value and competitive advantage	EXTENSIVE SCOPE -Covering business infrastructures and integrated support services -Responsible for business customer and internal clients, and property portfolio and facility resources	STRATEGIC MANAGEMENT - The strategic planning and strategic management of business infrastructure and services	SENIOR MANAGEMENT -Part of the senior management hierarchy -Integrated linkage with core business strategy -Separate division reporting at board level	- Participation in LONG-RANGE planning, resourcing strategy, investment and development -Typically 3-10 year time horizon concern	HIGHLY INTEGRATED FM ORGANISATION - Highly integrated FM department covering entire infrastructure/asset planning and management functions	TOTAL FM: - Complete service delivery from a single source	BUSINESS-RELATED PERFORMANCE ACCOUNTABILITY - Use of performance evaluation metrices correlating to organisational /business performance and FM performance.
LEVEL 2 CONSOLIDATED	WORK-ORIENTATED - Focusing on the coordination of all workplace support to meet organisational and human needs -Managing productive work environment -Maximising facility and service performance	SELECTIVE SCOPE -Mainly covering workplace management and support service procurement -Management of all operational support services -Responsible for employees	COORDINATION - The co-ordination and integration of FM functions and services	MIDDLE MANAGEMENT -Part of the organisation's middle management hierarchy -Reciprocal two-way links with business managers -Reports to a divisional head	- Participation in MID-TERM tactical management of facility resources and services to support medium-term demands, e.g. space planning, maintenance plan, management and contingency -Typically 1-3 year time horizon concern	CO-ORDINATED FM ORGANISATION - Co-ordinated FM planning, management and operational department	SERVICE PACKAGES: - Services bundled into major groups for the effectiveness and efficiency of management	SPECIFIC FM SERVICE PERFORMANCE ACCOUNTABILITY - Use of FM performance evaluation metrices e.g. facility service efficiency, utilisation rate, etc.
LEVEL 1 BASIC	FACILITY-ORIENTATED - Focusing on facility conditions and performance -Providing efficient facility operations -Controlling and reducing the operating costs	LIMITED SCOPE -Mainly building services and maintenance -Managing routine facility operations and services -Having limited coverage on facility resources and service	OPERATIONAL MANAGEMENT - Management of routine operations - Delivering basic support services	LOW MANAGEMENT -Part of low-level operational management hierarchy -One-way or administrative linkage with the business manager -Reports to operational business manager	- Only involved in SHORT-TERM decisions, and operational management and day to day support tasks -Typically 0-1 year time horizon concern	FRAGMENTED FM ORGANISATION - Separated facility planning, management and operational functions - Partial FM department	DISAGGREGATED: - Services delivered based on individual basis by in-house team or external contractors	GENERAL OPERATIONAL PERFORMANCE ACCOUNTABILITY - Use of general performance evaluation metrices e.g. time-target, cost-target, etc.

Figure 3(2) Profiling FM Arrangements

- Level 1: BASIC. This has been in a typical arrangement for traditional FM practices based on operational management functions, facility-oriented with limited scope, employing dis-aggregated service delivery arrangements with only basic operational performance measurement systems. This is the most common form of FM arrangement in Thailand.

- Level 2: CONSOLIDATED. This is a general arrangement where the FM remit consolidates and integrates all facility-related resources and services. FM arrangements at this level tend to be work-oriented with selective scope and a co-ordinating role at a middle management level, grouping service delivery arrangements into a few coherent packages, with specific FM performance measurement arrangements in place. This is perhaps the most common form of FM arrangement described or adopted in the UK and North America.

- Level 3: COMPREHENSIVE. This is the most ambitious type of FM arrangement, fully integrated with the strategic functions of the organisation. FM arrangements at this level tend to be business-oriented with extensive scope, adopting a strategic role at a high level of management, focusing on long-term planning issues with the use of business-related performance measurement systems.

Conceptually, an organisation will consider the options that are available to them across each of the eight attributes and at each of the three management levels. They will then select a combination of these positions, those that best meet their specific needs and constraints, to form the most suitable set of support arrangements overall. It should be noted that a higher level of management is not necessarily better than a lower one. Rather, based on the basic propositions of the research, organisations should adopt a set of arrangements that is the most appropriate for their circumstances. The matrix shown in Figure 3(2) can also be useful in helping to profile the characteristics of existing FM practice arrangements. By drawing a line through each relevant cell of the matrix a general profile of current FM practice can be mapped. This conceptual matrix has been incorporated within the five case studies that investigate the characteristics of FM arrangements as reported in Chapter Five.

This chapter has developed a conceptual basis for positioning FM proposing that a contingent approach be adopted with a multi-stage process of consideration and decision as illustrated in Figure 3(1). This model shows an analytical five-stage process of decision in the selection and implementation of FM arrangements. The general conceptual process needs to be developed further through an examination of empirical evidence from real case

investigations of FM practice arrangements and their rationale. In the next chapter, the detailed research methodology for obtaining empirical evidence to develop the conceptual process and a decision framework for positioning FM will be considered. The theoretical basis for the research as developed in this chapter will be used as a framework for considering the detailed research approach, the research design, and the selection of methods for data collection.

Chapter 4

Research Methodology

The literature review as described in Chapter Two, confirmed that few studies had been undertaken of FM arrangements and practices in different regions and countries, especially outside North America and Europe. Only a limited understanding of the different elements and cultural contexts of facility management arrangements were indicated and the need for a theoretical framework to underpin the decision-making process for positioning FM was generally supported. Although many have attempted to develop ideas and methods that relate to this need, there is still a considerable gap between theoretical concepts and their practical application. This thesis aims to address this gap, and to develop a practical decision framework for positioning FM based on empirical evidence as well as theoretical ideas. So the objectives of this chapter are:

- To consider the available research concepts, approaches and methods.
- To select a suitable methodology for achieving the objectives of the research.

This chapter sets out the philosophical basis for the research and describes the research process and the research design that was used to conduct the study. Also it explains the reasons for adopting a case study approach, the case selection criteria, the unit of analysis, data collection methods and the forms of data analysis that were employed to help to develop a generic framework for positioning FM. Finally, the chapter discusses the method by which the resulting decision framework was scrutinised and tested and the general validity of the outcomes of the study were verified.

4.1 Philosophical Basis

The selection of a research methodology and the ways in which research questions are to be explored, will depend on the underlying philosophical basis of the study (Bryman and Bell, 2003). This philosophical basis helps the researcher to clarify the overall research approach, to recognise the limitations of any particular research method and to create or adapt a research design and programme to fit the nature of the research problem under investigation (Easterby-Smith *et. al.*, 2002). The development of a philosophical basis for research involves a number of considerations and issues, particularly the epistemological and ontological positions of the research area, the form of logic to be adopted and the feasibility of alternative investigative approaches. In relation to the research reported here, the philosophical basis had to recognise that:

- There were no established theories for positioning FM.
- There was limited empirical research to inform or support theory development in the FM field generally.
- There were few established methods and techniques that might be used to support the positioning process.
- There was little empirical evidence or detailed information about how organisations determined their support requirements or positioned their FM arrangements.

These issues implied that the research would need to:

- Gain empirical evidence of what organisations do when they position and reposition their FM arrangements and to understand how they make positioning decisions overtime;
- Develop a secure theoretical approach and framework for positioning FM arrangements;
- Identify and build appropriate decision process, methods and tools;
- Test the methods and tools to ensure that they are applicable in practice.

Epistemological considerations in research are concerned with the sources and origins of knowledge, how it was discovered or created and to what degree it should be regarded as reliable and acceptable knowledge within the disciplinary area. Since this research aims to gain understanding and insights of positioning processes and actual practices in the 'real world', the research adopted a mainly empirical approach. Empiricism refers to approaches that study the reality of any situation or phenomenon through knowledge gained from experience and direct observation (Bryman and Bell, 2003). Empirical studies were needed in this research to gain practical evidence of FM arrangements in real cases and to test the potential application of the methods and tools that were developed.

Ontological considerations are concerned with how research should consider the fundamental nature of a given subject domain and how it can be examined and measured. The area for research was concerned primarily with decision issues and their context rather than physical objects or natural systems, and was therefore difficult to measure or quantify objectively. In order to gain an understanding of this type of subject, the research placed emphases on an approach of 'constructivism' and 'interpretivism' rather than positivism and objectivism. Constructivism and interpretivism takes the view that the world or subject of study is socially constructed and predominantly subjective (Bryman and Bell, 2003), and seeks to uncover meanings and understandings of the broad interrelationships in the problem area or situation. This approach was therefore suitable to face the characteristics of the subject of research – the positioning of FM arrangements and their subsequent changes – through a largely subjective process of reflection, intuition, interpretation, translation and the development of conceptual meaning (Easterby-Smith *et. al.*, 2002; Bryman and Bell, 2003). Given the research intentions to gain understanding of the positioning process, its relationships and the 'how' and 'why' questions as set out in Chapter One, a mostly qualitative research approach was adopted for the study. Qualitative research methods are regarded as a suitable approach for studying areas about which little is known, building theory and associated interpretive data, to produce findings by non-statistical processes (Strauss and Corbin, 1998). It is therefore a useful approach for topics for which virtually no research has been undertaken in the past and where there is little prior literature to inform the research (Bryman and Bell, 2003). It is also a useful approach in gaining in-depth information within a holistic overview of the context of the study (Miles and Huberman, 1994).

Within a broadly constructivism and interpretivism orientation, the research for this thesis adopted a mixed logical position, combining deductive and inductive processes, the use of which have been widely adopted in research (Easterby-Smith *et. al.*, 2002; Ticehurst and Veal, 2000). The research began deductively by building a conceptual basis for considering the FM positioning process as discussed in Chapter Three. It used a theoretically-led approach based on deductive logic to help to identify the key variables to be studied and to inform the collection and analysis of data. This approach may be considered as contrary to the concept of grounded theory that emphasises that theory-building research should not begin from a preconceived concept of the structured relationship between variables but should generate theory out of data (Eisenhardt, 1989; Strauss and Corbin, 1998). But other authors, such as Miles and Huberman, Bryman and Bell, Ticehurst and Veal, and Yin, argue that pre-conceptions are inevitable, and support the use of a conceptual framework to shape and guide data collection and analysis, especially through a case study approach. These authors suggest

that this approach can be more economical and direct, producing comparable and potentially generalisable findings in research studies that are tightly constrained by resources and time. But this approach also has potential weaknesses. If the initial conceptual framework is too tightly constructed it may lead to a limited viewpoint, it may overlook key problem areas or issues that were not anticipated and give rise to an unbalanced scheme of data collection and analysis. To avoid these weaknesses, the research minimised the risks of pre-conceptions concerning the conceptual framework by using a set of research questions that facilitated cross-case comparisons in an open-ended way. In addition, the research sourced a wide range of others opinions to ensure that the analysis was not biased and was open to be informed by findings outside of the initial conceptual position. The philosophical positions of the research as described above were used as a basis for research design, as described in the following section.

4.2 Research Design

Research design refers to the selection of a primary strategy for conducting the research and the organisation of research activities within that strategy (Bryman and Bell, 2003). It is concerned with the selection of the main research instruments, whether to rely on an experimental approach, cross-sectional and/or longitudinal studies, a case study approach, comparative studies, social surveys, multiple-case studies, and so on. The research design will define the unit of analysis, the issues that are to be studied directly and the nature of the data to be collected. The research design for this thesis was constructed around the research questions and objectives as set out in Chapter One and summarised in section 4.1 on page 67. The research design needed to address:

- The ways in which the key factors involved in the consideration of FM policies and practices could be identified and studied, with particular reference to the context of Thailand.
- The means by which a decision framework and tools for positioning FM could be developed.
- The evaluation of the framework tools in relation to their application in practice.

In addressing these needs, the research design focused on the following objectives:

- to understand and gain practical insights of positioning processes from actual FM practices and experience.

- to examine the degree to which this experience might be replicated and generalised within a theoretical framework.
- to test the applicability of the theoretical framework and its tools.

In order to meet these needs and objectives, it became clear that the research should adopt a 'mixed' research design approach as advocated by many authors (Easterby-Smith *et. al.*, 2002 and Leonard-Barton, 1990). These authors suggest that a mixed research designs can provide multiple perspectives and richer information concerning the subject of study and are capable of offsetting the constraints and limitations of the individual methods that they include. The central research method that was selected was case-based, with a multiple case investigation approach. This method was considered to be most suitable for this research for several reasons. First, the case study can provide an in-depth description and explanation of a process that has not yet been thoroughly researched (Leonard-Barton, 1990). It can be a logical method for empirical investigation of a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and its context are not clearly defined, and it is an appropriate method in circumstances where 'how' and 'why' questions are being posed (Yin, 1994). It can allow an investigation to retain a holistic overview of the meaningful characteristics of real-life events such as organisational and managerial processes (Pettigrew, 1992) and provide a multi-dimensional picture of a situation and crucial relationships to both test existing theory and generate new theory (Eisenhardt, 1989). The case-based approach can deal with past and current circumstances and can incorporate a variety of data collection methods to gain qualitative and quantitative evidence, e.g. interviews, direct observations, questionnaire surveys, and inspections of documentation (Eisenhardt, 1989; Leonard-Barton, 1990). This approach can also benefit from the prior development of theoretical propositions to guide data collection and help structure its analysis.

The research design adopted a multiple-case study format to help to establish the basis for a replication logic. On one hand, the variations across a sample of case studies can enable the researcher to replicate findings across cases and through the similarities and dissimilarities observed, to distinguish between cases across a variety of different dimensions that are conceptually meaningful. So this approach could enable the research to identify both the common and the differentiating factors of FM arrangements among different organisations and from different sectors. On the other hand, the multiple-case study approach can provide the researcher with a deep understanding of processes and outcomes, the chance to test hypotheses and to develop a clear picture of locally grounded causality (Huberman and Miles, 1994). The case studies were structured and examined in a consistent longitudinal fashion, in order to enable the research to observe and study the changing patterns relationship between

organisational characteristics and their FM practices in a dynamic way (Pettigrew, 1992). This type of research design has been used widely for studying organisational dynamics since it has the ability to link change processes to key events or determining factors, and to simultaneously explore the links between the context, content and processes of change together with their interconnections through time.

Two stages of data analysis were used to interpret data from the case studies and to inform the development of a theoretical decision framework for positioning FM. Each individual case investigation was analysed independently, but to a common format, in order to gain familiarity with the data and to codify the preliminary patterns of FM arrangements and their changes on a 'within-case' basis. Cross-case analysis was then undertaken to search for and compare similarities and differences in the patterns of relationship and to help formulate and further develop the concept and theoretical framework for positioning FM. Details of both stages of analysis are discussed in section 4.4 of this Chapter.

The results from the multiple-case investigations and their 'within-case' and 'cross-case' analysis, were used to clarify the conceptual basis of the research and to develop the decision framework and tools for positioning FM. These research outcomes then needed to be tested before they could be considered as valid and relevant to FM practice. In order to do this, an 'Applicability Trial' method was employed. This was a hybrid approach combining aspects of expert scrutiny, partial field trial testing and hypothetical simulation exercises, to develop a method to facilitate the assessment of the decision process and tools. The trial subjected key elements of the positioning framework and its tools to an examination by individual experts from a sample of organisations, using a three-part set of trial documents consisting of an executive summary of the proposed FM positioning process, details of the proposed seventeen positioning tools with explanatory documentation, and a three-page questionnaire for completion and return. Trial participants were asked to review the positioning process and tools as if they were really undertaken for their organisation, to provide their judgements on the key elements and stages of the process, together with their suggestions for improvement. In assessing the applicability of the process and tools , a set of assessment criteria were used, including usability and practicality, the logic, structure and stages of the process, its coverage and emphasis, flexibility and adaptability. This sort of method was employed due to the constraints of cost, time and manpower that are associated with a Ph.D. study. Details of the trial and its evaluation are summarised in section 4.6 and discussed fully in Chapter Eight.

Based on this research design overall, the process of research was constructed around four main stages as described below and illustrated in the flowchart shown in Figure 1(1) in Chapter One, page 9.

- Stage 1: The Area of Study. The first stage involved the study of relevant literature, conceptual positions and practice experience to inform the development of a theoretical basis for the research, as described in Chapters Two and Three.
- Stage 2: Case Investigations. This stage focused on five case investigations, each of which profiled FM practice positions at different time periods and explored facility management policies, structure and change, clarifying the role and scope of FM and the key factors that were taken into account when positioning FM arrangements. This phase aimed to identify the relationships between a particular set of FM arrangements and the characteristics of the organisation that it supported within the wider context. The data from the case studies was analysed to identify the changes that had occurred between at least two time states. Within-case and cross-case analysis was undertaken to understand and characterise the change processes and the key factors that influenced the adjustment and restructuring of FM arrangements and practices.
- Stage 3: Framework and Process Development. This stage involved a process of induction through which the implications of case study findings for the positioning theory were inferred (Bryman and Bell, 2003), and the results of the cross-case comparisons were used to refine the initial theoretical framework for positioning FM, and to develop a decision process and its tools.
- Stage 4: Framework and Process Evaluation. The final stage of the research involved testing and evaluating the applicability of the positioning framework and its decision tools in practice, leading to further refinements and the consideration of improvements and developments for the future.

4.3 Case Study Sample

The selection of the number and type of case studies is different from the selection of a sample for questionnaire surveys, structured interviews or other quantitative research methods which normally depend on representative samples that require a large number of participants. For obvious practical reasons, case study research relies on a smaller number of subjects or instances for in-depth study. The number cases selected should be sufficient to serve the specific purpose and overall scope of the investigation and follow the logic of an experiment rather than the logic of survey sampling (Yin, 1994). They can be chosen to produce insights and information based on the concept of 'making comparison', with the

number of cases and the variety of circumstances to be studied, intended to discover variations between events, processes or concepts, or may be chosen to cover theoretical categories, to provide examples of polar types or to meet other theoretical or conceptual considerations (Pettigrew, 1990). In this respect, case selection aims to fulfil the purposes of providing insights, replication and analytic generalisation rather than to enumerate frequencies and generate statistically reliable results. In areas where there is difficulty in accessing information, Pettigrew (1990) suggests that the case can be selected on the basis of a process of 'planned opportunism', where the research focuses on those cases that provide ready access to research sites. So in the adoption of a case study approach, it is important to identify and define what the 'case' for investigation is at the outset in order to determine the number of cases to be investigated, the limits of data collection and the form of analysis (Yin, 1994). This entity called 'unit of analysis', forms the basis for the research sample (Easterby-Smith *et. al.*, 2002). In this research, the unit of analysis was 'the FM function' within an organisation, selected because its characteristics represented the position or arrangements of practice in any given situation.

Given the considerations discussed above, the sample of cases was selected on a 'theoretical sampling' approach (Strauss and Corbin, 1998) using the theoretical basis in line with the general conceptual framework for positioning FM as proposed in Chapter Three. By adopting a theoretical sampling approach, the case studies were chosen to maximise the opportunities to discover variations among the concepts (Strauss and Corbin, 1998) with the sample is purposeful directed to the logic and theoretical basis of the research. A sample number of between 4 and 10 cases is usually considered to be acceptable, practical and generalisable (Yin, 1994; Eisenhardt, 1989; Pettigrew, 1990). With three or fewer cases, it can be difficult to generate theory with sufficient generalisation and empirical grounding unlikely to be convincing, while with more than ten cases, it becomes difficult to cope with the practical complexities and volume of the data. Five main case investigations were chosen for the research to cover a range of business sectors and facility types so that the theory and framework developed from the research might be capable of generalisation. The cases included a telecommunication company, a manufacturing company, an international bank, a major local bank and a university, all with a basic understanding of facility management practice. Four of these were large private organisations, the fifth was a public sector institution. Each case study covered at least two stages in organisational development with different sets of FM support arrangements at different times. Case selections were based on three general criteria:

- The organisations were all operating in Thailand.

- The organisations had an established FM function or department that was responsible for some of the support arrangements and services with which FM is normally associated.
- In each of the selected cases there had been developments or changes in FM functions over the previous five years.

4.4 Data Collection

This section summarises the variety of methods that were use to collect data, the key sources of data and the means by which data was collected in practice, using a mixed approach. The case study investigations used four main methods of data collection: semi-structured interviews, direct observations, questionnaires and the inspection of archival documents. Semi-structured interviews were employed as the main data collection method, providing a flexible approach with which to cope with the variance of the cases and queries during the interview. It is an efficient and open method that captures essential data but leaves both interviewer and interviewees flexible to ask and answer additional questions as appropriate (Bernard, 2002). In this research the interview questions were directed to selected key persons in the FM team within the organisation, generally those who were responsible for directing, planning, managing and operating the FM department or functions. To enrich the information gained from the semi-structured interviews and to crosscheck the validity of information, supplementary interviews were conducted wherever possible with business managers and FM staff at the operational level.

In total, twenty-one interviews were completed. Given the conceptual basis of the research as described in Chapter Three, a short-list of key questions was developed as a pro-forma to help structure the interviews to ensure that the required general and specific information was collected together with opinions and comments from the interviewees. The key questions within the pro-forma were designed to be flexible so that they were equally applicable to the various organisational types and to be flexible and open to collect any unexpected responses. The interview questions are included in Appendix B, page 279. It covered the following issues:

- Organisational background and policies.
- The nature and characteristics of facilities, their uses and services.
- The background to the FM organisation and its development.
- The concepts and methods of facility management used within the organisation.
- The scope of FM responsibilities, services and work operations.
- Key issues for FM practice including its primary focus, priorities and concerns.

- Level of authorisation and responsibilities for management involvement and decision making.
- The linkage between FM functions and organisational structure.
- Accountability and Performance indicators for FM services.
- Other comments on current problems and constraints, risks and opportunities, criticality and performance.
- Opinions concerning future improvement.

A survey sheet – 'FM practice profiles', in Appendix B, page 279, – was used to record data concerning the perceptions of the primary functions, the work responsibilities, the percentage of budget allocation, and the predominant priorities of FM practice. Document and archival data was used to access relevant secondary data of the organisations including its historical background, its stated business objectives and strategies, policies and resources. Sources included annual reports, the organisation's released documents, its web site, any press coverage and other records. In addition, further information concerning the business context of the organisation's operations and the market environment was collected, when available. Direct observation was used as part of each visit, to collect further information about the activities, facility uses, behaviour and culture of the organisation generally.

The data collection for each of the five cases was planned and conducted systematically around a six steps process:

1. The first visit was introductory. The researcher explained the basis of the research project, its objectives and requirements and the research methods, including a preliminary discussion concerning the planned interviews and the key persons that would be involved.
2. Prior to the full interview, the research began the collection and scrutiny of documentation and archive material to obtain background information of the case.
3. The first interviews took place one or two weeks after the first visit, using the semi-structured interview pro-forma for interviewing selected key persons in each case. Interviews were of 1½ to 2 hours duration. Documents about the organisation and its FM department were also reviewed at the end of the interview, with all conversations recorded on tape, supplemented by field notes. At the end of interview, the interviewed FM manager was asked to complete and return the survey sheet.
4. Interviewee replies, comments and opinions were transcribed into fieldwork notes to a standard format and were then checked for missing information.

5. Second interviews were undertaken in all cases to obtain missing information to verify the information received and to discuss supplementary issues. At this meeting the survey sheets were collected together with the remainder of documents requested.
6. A third interview was conducted where necessary, either face to face or by phone.

The collection of the comments and opinions of the experts in the 'Applicability Trial' at the end of the research, employed a survey questionnaire consisting of two major parts: indicative comments and open-end opinions in Appendix C, page 283. Each individual expert was asked to indicate his/her opinion on each individual phase of the decision process and its associated tools and to assess the overall features against the key criteria using a five-point scale ranging from strongly agreed, fairly agreed, agreed/acceptable, fairly disagreed, to strongly disagreed. The respondents were also asked to provide their individual opinions comments, reservations or suggestions concerning the particular question through the open-end questions which were attached to the indicative comment. In the final part of the questionnaire, they were asked to comment on the strengths and weaknesses of the decision process and tools overall, and were invited to suggest modifications and further improvements. The details of the trial package and questionnaires will be fully discussed in Chapter Eight.

4.5 Data Analysis

As mentioned in section 4.2, there were two main stages of data analysis in the case investigations. First, was the data analysis within each of the five case studies in turn, second, was a comparative cross-case analysis of the results overall. By using a case-based study method, most of the collected data and information was qualitative, but supplemented by some quantitative data. This analysis approach was widely adopted by many authors (Eisenhardt, 1989). As a first step in the data analysis, the research transcribed the recorded interviews into a comprehensive database, indexed by interview question number. Next, all the interview notes for each case were consolidated and constructed into an integral field note. Using these interview databases and secondary sources, e.g. organisations annual report, etc., five individual case reports were produced to summarise the key information in each cases (see Appendix A, page 216 to 278).

To sort and interpret the data at the primary stage, the combination of within-case analysis (Eisenhardt, 1989), coding techniques (Strauss and Corbin, 1998) comparative analysis, longitudinal time-series analysis (Yin, 1994; Miles and Huberman, 1994) and 'ground analysis' techniques (Easterby-Smith *et. al.*, 2002) were adopted. First within-case analysis was

undertaken to examine the characteristics of organisation and FM practices. The FM arrangements and their changes were codified, and their main characteristics were summarised graphically through FM arrangement profiles, as proposed in Chapter Three page 63, plotting the characteristics of the eight FM practice attributes against the three FM arrangement levels, as shown in the matrix in Figure 4(1). The emphases of primary FM functions, FM responsibilities and FM priorities were illustrated in radius diagrams, as shown in Figure 4(2) below. Figures 4(1) and 4(2) show notional positions only. Details of the real results of this part of the data analysis are described in Chapter Five.

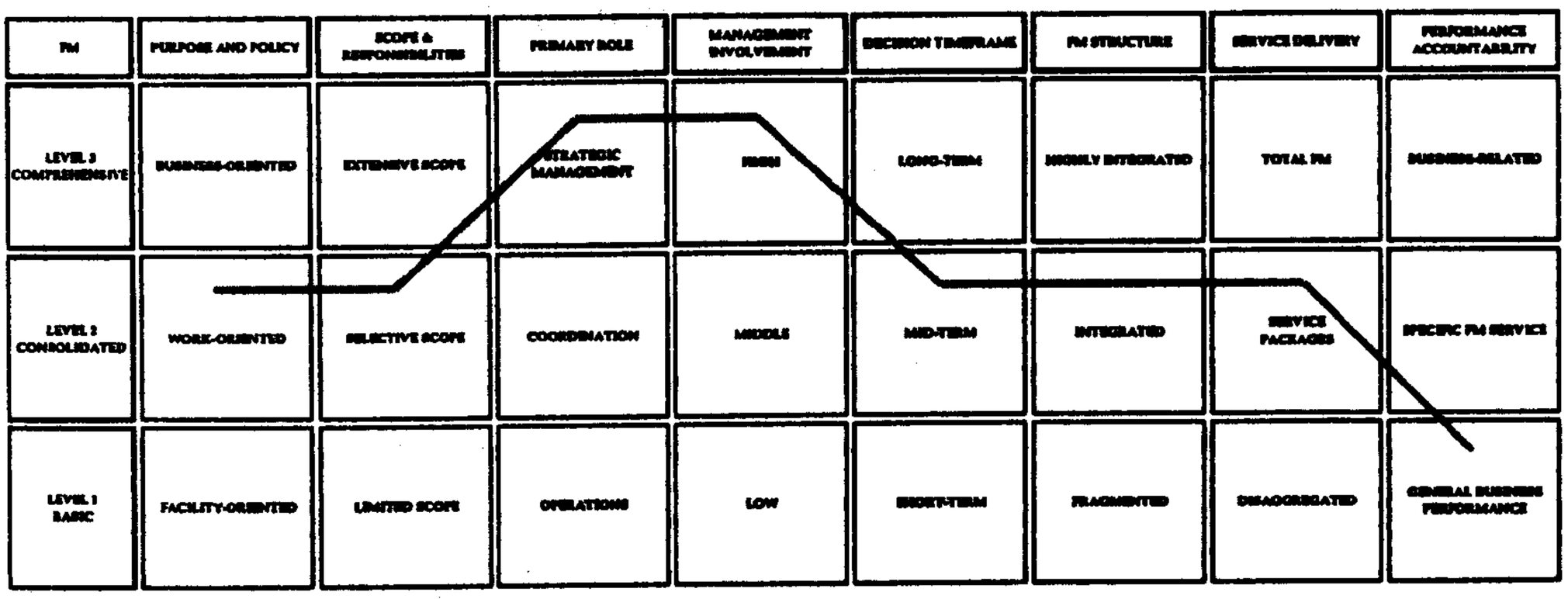
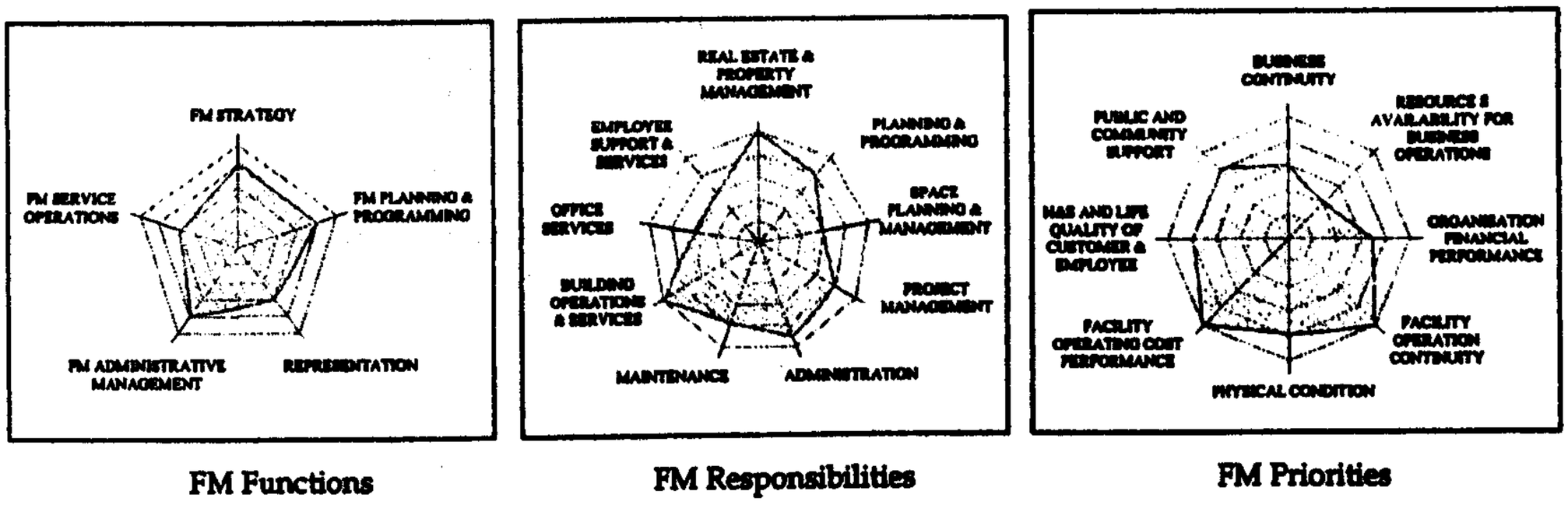


Figure 4(1) FM Profile Analysis Diagram



FM Functions FM Responsibilities FM Priorities

Figure 4(2) FM Emphasis Analysis Diagram

Once the data analysis of individual cases had been completed, the research conducted a cross-case analysis of the data from the five case investigations to examine and compare results, identifying similarities and differences in order to develop conceptual insights. The cross-case comparisons employed several methods and techniques from Qualitative Data Analysis (Miles and Huberman, 1994) and cross-case patterns searching (Eisenhardt, 1989). The findings were compared on three key issues: FM arrangement factors, change factors and the decision process. A number of tables and diagrams were created to facilitate the comparison and analysis. These are described fully in Chapter Six.

Based on the insights gained from the case studies and the cross-case comparisons, the conceptual basis for of positioning FM was developed further to refine the initial framework and to establish a general decision framework and associated tools for positioning FM. Throughout this analysis and development process, research results, outcomes and ideas were rechecked regularly with the interview database and case reports to ensure consistency and reliability. The resulting prototype framework and tools then needed to be scrutinised, tested and validated.

4.6 Scrutiny and Validation of Results

In undertaking any given research projects, one of the main underlying concerns is the general validity of the methodology and quality of the research being undertaken. Typically, there are four important validity criteria: construct validity, internal validity, external validity or generalisability and research reliability overall (Yin, 1994). Research reliability is concerned with the question of whether the results of a study are repeatable (Bryman and Bell, 2003) and whether the operations and procedures of the research are logical and secure (Yin, 1994). Construct validity is concerned with whether the research instruments are sufficiently accurate measures of reality (Easterby-Smith *et. al.*, 2002). This involves establishing secure operational descriptions for the concepts, ideas and relationships being studied (Remeyi *et. al.*, 1998). To ensure construct validity, this research used multiple sources of evidence such as interviews that included individual and collective information and opinions, organisational policy documents, archival records, recorded expert opinion, public documents, and direct observations, to support the conceptual development and the analysis.

Internal validity is concerned with knowing whether the major assumption and inferences are correct and whether the research design has eliminated bias and the effects of extraneous variables (Easterby-Smith *et. al.*, 2002). The internal validity is mainly involved with the data analysis phase (Yin, 1994) and can be demonstrated by sound arguments and logical analysis structures, so this research established a theoretical positioning basis, and applied a set of analytical techniques as described in section 4.5. External validity is concerned with knowing the degree to which the research findings can be generalised within a wider context and have generic relevance to other settings (Easterby-Smith *et. al.*, 2002). In this research the external validity was assured in two ways. First, the research utilised a replicated logic across the multiple-case studies. Second, it examined the generalisability of the outcomes of the study, by conducting assessment trials to test the general applicability of the positioning process and tools in practice as described below.

A number of alternative methods of evaluation were considered for this research, principally through field trial or experiment and action research (Robson, 2002), simulation (Gilbert and Troitzsch, 2005) or gaming exercises, opinion surveys (Bryman, 2004) and expert group discussion and review (Bryman, 2004). A field trial or experiment approach to test any new method or product is usually considered to be the most secure way to proceed (Susman and Evered, 1978). If this is not feasible then the performance of new decision processes, novel techniques, expert systems and innovative management arrangements, can be examined systematically with the use of simulation models or gaming exercises prior to 'real-world' application. While these approaches produce only indicative and hypothetical results, these can be of considerable practical value particularly in fields where there are difficulties in implementation in the real situation directly (Schwartz, 1984). On the other hand, the result of this approach may be questionable since simulation models are an abstraction or approximation of real world problems (Fossett et. al., 1991). New ideas, proposals and predictions can also be tested indirectly through expert scrutiny and peer group review (Gass, 1983). Reviews can be undertaken on an individual basis through a wide variety of opinion survey, structured interview and questionnaire techniques, or collectively through one of many of the well established group review methods undertaken face to face or remotely (Bryman, 2004). Opinion surveys are a well established way of obtaining a large sample of opinions and comments on the possible value of new methods and decision tools, and can be conducted remotely. Assessments through opinion surveys have limitations in complex fields since there is no one presents to help respondent if they are having difficulty answering questions, imposing a 'cannot prompt' constraint on the assessment process (Bryman, 2004). Assessing new methods or any approaches, which require in-depth expertise, through a survey approach, can therefore have major limitations. Expert or peer group review, such as the Delphi method, brainstorming or focus group discussions, can be useful to gain direct opinions from a panel of experts. This approach can provide secure lines of communication between the researcher and experts in the field, however, consolidating the range of expert opinions can be very difficult to achieve. The discussions can be difficult to control and there may be 'group effects' with a single opinion having undue influence on the others, which in turn may cause bias among the participants and distort the outcome (Bryman, 2004).

Ideally, a field trial of a FM positioning framework would involve the systematic real-time observation and recording of the results of a representative sample of applications across a variety of organisation types and circumstances, covering all of the main facility sectors in a number of countries or regions. However, it was considered that a full field trial of this kind was not feasible within the context of a Ph.D. research programme, due to the lengthy

duration of the FM positioning process, the constraints of the researcher's time and the limited resources that are available to support Ph.D. studies. However, partial field trials, limited to a few crucial stages of a decision process and to a small selection of problem elements can be feasible within the context of a Ph.D. study (Taylor, 2002). A hybrid 'Applicability Trial' approach was developed for this study, combining some aspects of the methods mentioned above. The aim of the Applicability Trial was to scrutinise key elements of the positioning framework and to test their applicability as assessed by individual experts from a sample of organisations. A partial and hypothetical form of field trial was adopted to simulate a 'real world' and 'real time' assessment of the positioning decision framework and its tools. In the trial, experts were first asked to review the positioning process and tools as if they were actually undertaking a positioning exercise for an organisation. Second, the experts were asked to use a hypothetical situation from which to give their judgements on the value of key stages and elements of the positioning process and its range of tools. The detailed basis and method for this trial, together with its results and implications, are reported in Chapter Eight.

This chapter has described the research methodology that has been adopted, its philosophical basis and rationale, the research design, its associated methods of data collection and analysis, and the methods for the scrutiny and validation of the results. The research process was divided into four main stages: The Area of Study, Case Investigations, Decision Framework Development, and Testing and Evaluation. After consideration of the advantages and disadvantages of alternative research approaches and methods, an empirical and largely qualitative research approach has been adopted for this study. A multiple-case study investigation was selected as the central method within this approach to conduct an in-depth study of FM arrangements, practices and their context. The next chapter will document and analyse the five case investigations of facility management practices in Thailand, using of the research methodology discussed above followed by a description and discussion of cross-case comparisons in Chapter Six.

/ There might be some weaknesses in using this method: the trial was largely uncontrollable and based on subjective opinion and trust. To overcome the weaknesses, the sufficient time for the questionnaire reply was given, and a short-list of highly qualified FM experts from various sectors was selected./

[Ch 8] In assessing the applicability of the process and tools, the frequency of opinions on each department of the process and tools were analysed. The feedback of the opinions was quantified in percentage and presented in the format of graphs. The results were used to indicate the extent of their usefulness in practice.

Chapter 5

Case Investigations

The last chapter set out the methodology and framework for the research overall. This chapter describes the five case studies that were undertaken to examine FM support arrangements in practice. These investigations aimed to gain an understanding of the relationship between FM support arrangements, organisational requirements, their business context and the factors inducing modifications or change over time. The objectives of the case investigations were:

- To undertake detailed studies of a sample of FM arrangements that had been adopted in practice;
- To investigate the relationships between the adopted FM arrangements and the characteristics of the organisations that they support;
- To identify the key issues of concern and the basis of the decision process leading to the selection of an appropriate set of FM arrangements to support the needs of a specific organisation at a particular point in time;
- To examine those factors and changing conditions that had induced modification or restructuring of FM arrangements over time;
- To analyse and compare the factors influencing the FM positioning process across the five case investigations;
- To provide generic insights into the positioning process, based on the information gained from cross-case comparisons;
- To consider the potential opportunities and possible limitations of formal decision methods to assist in the positioning process.

The first four of these objectives are the focus of this chapter, while the remaining three objectives are addressed in Chapter Six: Cross-case Comparisons.

As explained in Chapter One, the research focused not only FM positioning, but also on repositioning in response to organisational changes. Change is a major and important feature of organisational life (Burnes, 2000). Within the business management literature and in organisation theory generally, there is a broad consensus and consistent evidence that organisations change over time and that the pace of organisational change is accelerating. Change is considered to be inevitable in all organisations (Holbeche, 2006; Dawson, 2003; Burnes, 2000) and responding and adjusting to change are seen as a critical aspect of effective management (Hussy, 1995). Understanding the implications of change and the types of response that may be required, is vital to an organisation's competitive position, its survival and success (Dawson, 2003). In addition, the understanding of the process of change can help organisations to decide when to activate change, when not and help them to determine what is an appropriate strategy and programme for change management. Where it is possible to identify, map, estimate or predict the potency of the forces that are including change, then the reactions to that change within an organisation or group can be understood, planned and managed (Lewin in Burnes, 2000: 268) and an appropriate model of organisational change can be developed. It is therefore essential to study change processes over time and to identify and examine the contextual and temporal character of any changes that might be undertaken.

Organisation support requirements also change over time, as described in section 2.2 (page 50). These changes not only relate to internal organisational requirements, but are also affected by many external factors that can induce changes within organisations. The literature review that was undertaken during the early part of this research, demonstrated a widespread view that the alignment of FM support arrangements to the core business requirements of an organisation is a crucial matter. It also indicated that the dynamic relationship between changing organisational requirements and FM support arrangements was a neglected area of study. The literature review also confirmed a generally held view that FM arrangements need to meet the specific requirements of a particular organisation and its sector at a particular time rather than a standard or 'ideal' form of FM support arrangements to fit all organisational types and circumstances, emphasising the need to understand the links between FM arrangements and changing organisational characteristics. As set out in Chapter One, all organisations face a common problem of how to position their FM support arrangements in these dynamic circumstances and how to review, modify or restructure their support arrangements as their organisational requirements change.

The case investigations that were undertaken as a central part of this research set out to study this changing pattern of relationships between organisational support requirements and facility management arrangements. Each of the selected cases and the periods of investigation, covered at least two different sets of organisational support requirements in order to study and compare FM positioning and repositioning decisions, within a highly dynamic environment. The specific issue of positioning FM for organisations within Thailand was a major concern of this study, as described in Chapter One. In this region, FM practices and professional initiatives are at an early but rapidly evolving stage of development, and, at the outset of the research, the degree to which international FM practices might be applied directly within the context of Thailand was unclear. Case investigations of FM positioning and repositioning within Thailand were therefore considered to be essential for the study, particularly to understand the potential application and adjustment of generic knowledge and experience to the specific circumstance of FM practices in the country.

Five cases were selected for investigation using the criteria described in Chapter Four. Each case had positioned or restructured its FM support arrangements at least once during the last five years. All of the cases were investigated longitudinally, each case covering at least two stages in organisational development and their associated sets of FM support arrangements. The cases covered a range of business sectors, they included a telecommunication company, a manufacturing company, an international bank, a university and a major local bank. Table 5(1) gives a summary overview of the five case investigations. Detailed reports summaries for each of the five cases are included in Appendix A, from page 229 to 291.

Table 5(1) Case Study Overview

CASE	INTERNATIONAL ORGANISATION	LOCAL ORGANISATION	PRIVATE SECTOR	PUBLIC SECTOR	STAGES OF ORGANISATION STUDIED
A: Telecommunication Company	●		●		I/G/S
B: Construction Material Manufacturer		●	●		S/D
C: Major Bank	●		●		S/D
D: University		●		●	S/R
E: Local Bank		●	●		S/R

* [I] – Inception Stage
[G] – Growth Stage
[S] – Stable Stage
[D] – Diversification Stage
[R] – Restructuring Stage

The process of the case investigations, data transcription and analyses is described below. As a first step, information from the recorded interviews were transcribed to a common format within a structured database, indexed by interview question number, with the interview notes for each case consolidated as a comprehensive field note. At this stage, the researcher began to codify and categorise the key issues concerning FM arrangements, their changes and decisions. The codifying process was done manually on a case by case basis, with the researcher examining each interview transcript, highlighting the key issues, keywords and any information that was outstanding. The adopted process helped to avoid any inconsistency from responses and language translation that might have occurred when using codified software. It allowed the researcher to re-check the meanings of the original transcripts and recordings and to resolve doubts or unclear messages. After compiling each of the field notes, the researcher re-examined all facets of the database to assure that all questions were covered and fully answered. Where there were unclear or incomplete answers, the researcher returned to check these queries with the source. The five consolidated case reports summarising the key information for each case, were then supplemented by archival documents, particularly by the organisations annual report, stated policy documents and any FM departmental documents that were available. The detailed format of the case reports as used to conceptualise and categorise data, is shown in Appendix A, from page 229 to 291, and the example of consolidated coding analysis of the key issues is included in Appendix E, on page 337.

In the next stage of the process an analysis was undertaken of the interrelationships between the key codified issues within each of the five case studies. In these within-case analyses, the characteristics of the FM support arrangements and their changes within the study period were analysed and summarised graphically through a series of FM profiles, as developed in Chapter Three (page 63) plotting the characteristics of eight key FM practice attributes against the three facility management levels that were identified. The emphases of the primary FM functions, FM responsibilities and FM priorities were illustrated using radius diagrams. At this stage, the key relationships, factors and issues concerning FM arrangements, changes and decisions, were summarised in detail as described later in this chapter.

Three sets of issues relating to positioning arrangements, change processes and the key areas of decision were analysed across the five case studies to identify common patterns and relationships. The results of this cross-case analysis and comparison are described in Chapter Six. The knowledge gained from the cross-case comparisons was used to develop and refine the initial theoretical concept, as set out in Chapter Three, and the implications of the results in relation to development of generic FM positioning concepts, are explained in Chapter Seven.

Each case investigation therefore consisted of two parts. The first set out to gain a detailed understanding of the individual case organisation and its FM practices. The key organisational characteristics were identified and the set of FM arrangements were summarised using the profile analysis diagrams as discussed in Chapter Four. In the second part of the case investigations, two main issues were examined in detail; the factors influencing the FM arrangements that had been adopted, and the context and characteristics of the FM changes that had been undertaken. Figure 5(1) illustrates the framework for the case investigations and the basis for the within-case analysis.

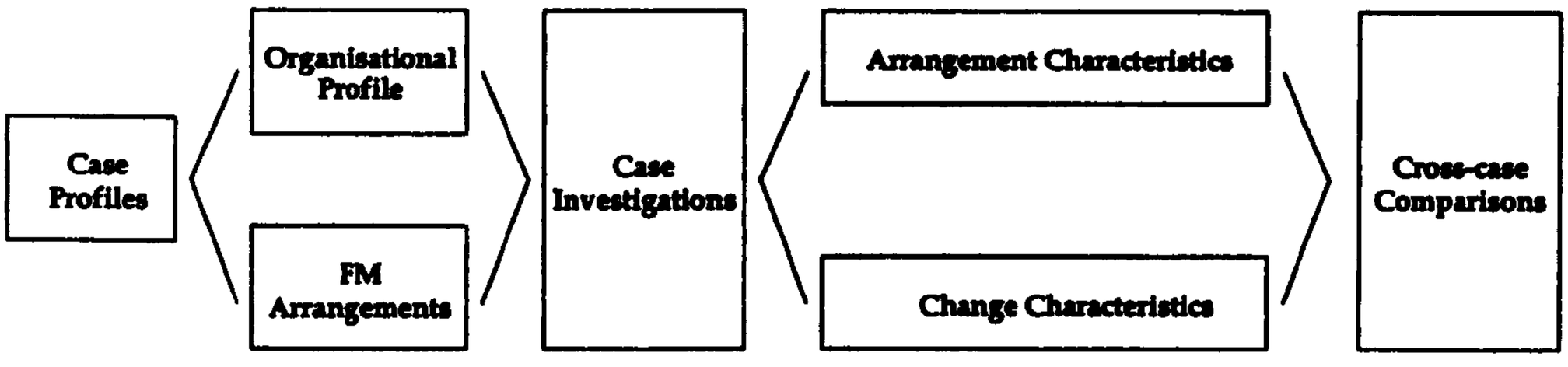


Figure 5(1) Case Investigation Framework

This chapter describes each of the five case investigations, in turn. Its five subsections summarises the organisational positions at each particular stage of development and describes the associated FM support arrangements, their characteristics and context. An interpretation of the reasons for the adoption of each FM practice profile is included. In the following sections, the detailed analyses of the factors affecting the positioning arrangements, the change issues and the key areas of decision are discussed again on case by case basis.

5.1 [A] Case Investigation A:
Facilities Management Arrangements for an International Telecommunication Company

In 1999 this organisation was a newly established joint venture company, founded by the Thai Corporation and a leading global telecommunications organisation. Within five years (1999 - 2003) the organisation had become the third largest private wireless-communication service provider in Thailand, with 10%-15% of the total market share.

Up to the year 2000, the organisation operated as an interim company, focusing on the coordination of its business set-up activities and preparing for a full business launch in due course. During this set-up period the organisation had a small number of staff who were accommodated in a temporary office of 4,000 square metres. At this stage the organisational structure was loosely defined with business priorities given to planning and formulation issues, including business development strategy, staff recruitment, negotiations, facility acquisition and development.

In late 2001, the organisation implemented a 'business soft-opening' to commence the partial operation of its network system and customer services. At this stage, its business focus was redirected to gaining market share and new customers and to launch its formal business operations supported by a newly defined organisational structure.

By the year 2002 the organisation was operating fully. The main business aim was to gain further market share and to establish its brand more strongly in the national market. The company had moved quickly on from a period of rapid growth to a more stable period of consolidation with emphasis on operational effectiveness. The overriding company policy was to maintain and extend its market share, with particular emphasis on the development of strong customer relationships and loyalties.

This case investigation covers FM support arangements in three different circumstances: at the inception stage of the joint venture, during the growth and development stage, and at a stable and steady state stage. Each of these three sets of FM arrangements are described below.

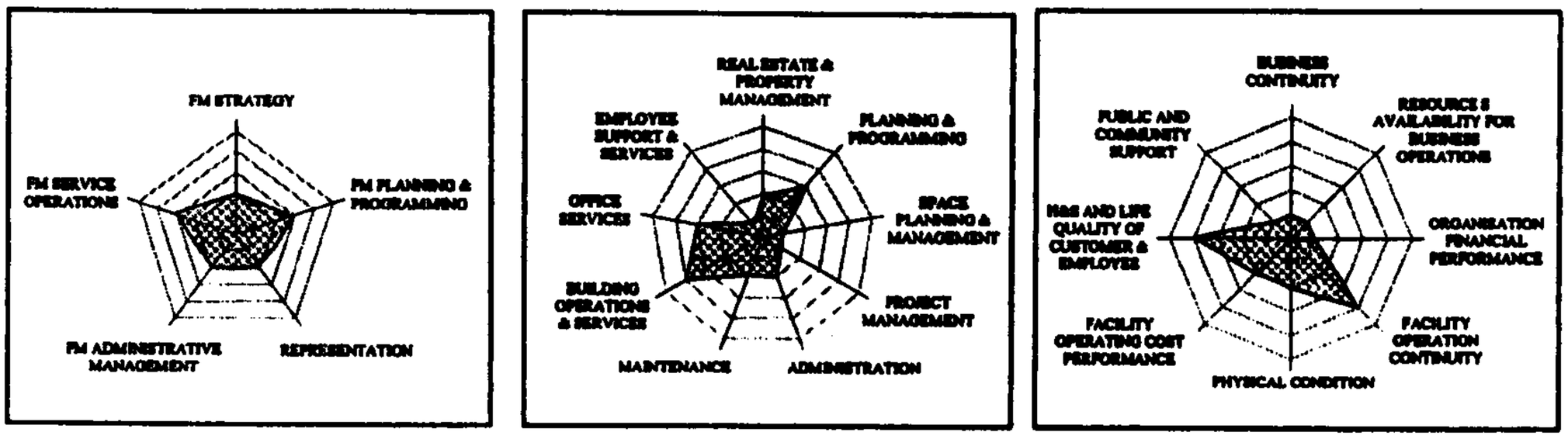
5.1 [A]1 FM Profile at the Inception Stage

At the inception stage, the FM team was structured on a temporary and partial basis. With only two primary functions; building operations and building services. Outsourcing was the main means of service delivery and delivery arrangements were fragmented with no systematic coordination and no formal arrangements for routine performance measurement. The FM priorities at this stage were primarily facility-oriented with particular emphasis on facility planning. Two important issues were paramount: ensuring that the building services were regularly and securely delivered; preparing plans and actions concerning the acquisition and deployment of facility resources to support business operations.

At this inception stage, the FM services and range of responsibilities were limited. They included the management of a temporary head-office facility and a limited range of basic building services and operations such as cleaning, security and general office housekeeping. However, while the main role of FM was operational it also had a key role in strategic planning for facility resource development and acquisition. So FM was involved in management at two levels: at a mainly routine operational management level and at a more strategic business management level. Operational management issues tended to involve short-term decisions concerning routine matters, while the participation in the facility resource acquisition involved in medium and long term strategic considerations. When asked why the FM department was initially structured with a very compact scope at the inception stage, the Head of department replied:

> *"As there was a small number of staff and the office was small and rented, FM needed to cover no more than the basic functions that could deliver routine and standard building use services. In my opinion, it was sufficient to have only two functions of those building services and office services, within the department.."*

The characteristics of FM functions, work priorities and the predominant concerns of practice at the inception stage are profiled in Figure 5(2). FM functions were predominantly directed to service operations, with responsibilities on the strategic functions of planning, programming and acquiring facility resources on the one hand, and to the routine operational functions of service delivery on the other hand. The FM priorities at this stage were given to operational continuity and on the health and safety of employees, particularly those that were foreign nationals.



FM Functions FM Responsibilities FM Priorities

Figure 5(2) FM Emphases at the Inception Stage [A]1

5.1 [A]2 FM Arrangements at the Growth Stage

During the growth period, the main activities of the organisation were to acquire all essential resources for business operations and to develop its network stations. It was critical that all facility resources were put in place to support the full business operations of the company at the next stage of development. It was recognised that any failure to achieve this goal would cause significant damage to the company in short and longer term. So to support the business imperatives of the organisation, the FM remit and its practices were re-arranged radically. The Head of FM indicated the effects of the organisation's rapid development between 2001 and 2002 on FM practice:

> *"...then (2001), completing the facility projects on time was the priority. We (FM department) put all resources and time to achieve this task. It was very critical to the whole organisation. The following priority (2002) was to relocate and accommodate business functions and employees in our new facilities. These had to be planned in advance, while facility operations and maintenance were put into a low priority."*

At this stage all FM responsibilities were consolidated within a 'Facilities Management' department located within the company's HR division. The characteristics of FM were described by the Head of department:

> *"FM is the function that involves the services for building, people and (business) operations and is mainly concerned with building uses, users and services. This defines subsequently the scope of FM responsibility and services."*

The FM department had both planning and management functions. Its main functions were divided into six service sections: real estate transaction services, building services, administrative services, project management, an environment, health, safety and security

section and a FM helpdesk service section. Outsourcing continued to be the main means of service delivery, but now systematically bundled by type of service and the type of skill requirements. During this stage the FM purpose and policy became primarily business support-oriented. The FM functions were directed to the acquisition and development of an appropriate physical resource base to support the business launch and the subsequent business operations, with emphasis on completion to a tight time schedule and budget.

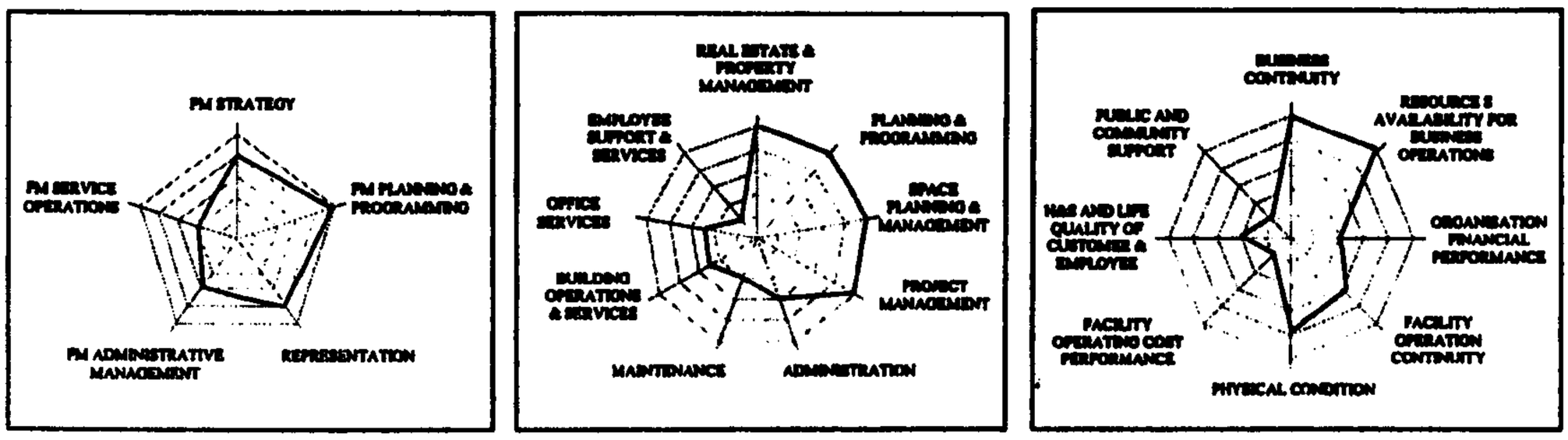
The FM remit and responsibilities were still selective in scope. While they covered the entire facility resource issues and all workplace supports and services, they did not cover all of the technical operational systems at all sites, cell-sites and the Base Transmission Stations (BTS) being excluded from FM responsibility. In term of task, the FM department was responsible for the delivery of all facility projects and all facility services once building construction was completed. Management responsibilities covered a wide range of services including real estate services, project management, facility maintenance and repairs, building operations and services, office services, planning and programming, space planning and allocation and facility services administration overall.

The FM department had a strategic role in delivering facility resources and services and in anticipating and preparing to meet the organisational requirements that were expected at the next stage of development. This involved regular participating in executive-level meetings to report on the progress of facility projects and to ensure that the facility development and acquisition met business needs within the time schedule. Here the FM department became directly involved with business management issues and strategic decisions concerning facility development, jointly with the senior business managers.

As mentioned above service delivery arrangements were mainly outsourced with the use of external consultants, systematically arranged in major groupings. Given that facility resource delivery was a key priority, construction performance indicators in relation to quality, cost, time, and completion rates were used to monitor and assess the effectiveness of the FM department. But at this stage, the FM department and the business organisation gave little attention to regular performance checks on other support services, since they were as yet not fully operational.

The characteristic profile of FM practice during this period is summarised in Figure 5 (3). The primary functions of FM focused on FM strategy, planning and organisational representation. At the start of this period, FM had to give high priority to facility resource acquisition, development and project management. Once buildings and workplaces were

occupied and began to operate, the responsibilities of delivering facility services, operational management, and the health and safety of the employee began to receive greater emphasis. Maintenance and repair services were given a low priority because buildings were in new condition and constructed to high quality standards. Towards the end of this growth period, FM priorities were given to business operation continuity, the availability of facility resources, and workplace quality and appearance within the new facilities.



FM Functions FM Responsibilities FM Priorities

Figure 5(3) FM Emphases at the Growth Stage [A]2

5.1 [A]3 FM Profile at the Stable Stage

All resource acquisition activity had been completed by 2002. Now that the company was fully operational and had stablilised its business operations, its focus shifted to routine business operations and their secure operational support from facilities and services. The Head of FM department explained the reason for the minor readjustment of the FM department after the organisation moved into a stable period:

> *"In the previous stage, project management was the main important function of the FM department because the organisation was expanding the business and services. However, once the building construction had begun to phase down, the function was less required. Therefore, in order to retain the level of organisational efficiency, redundant function such as project management needed to be downsized."*

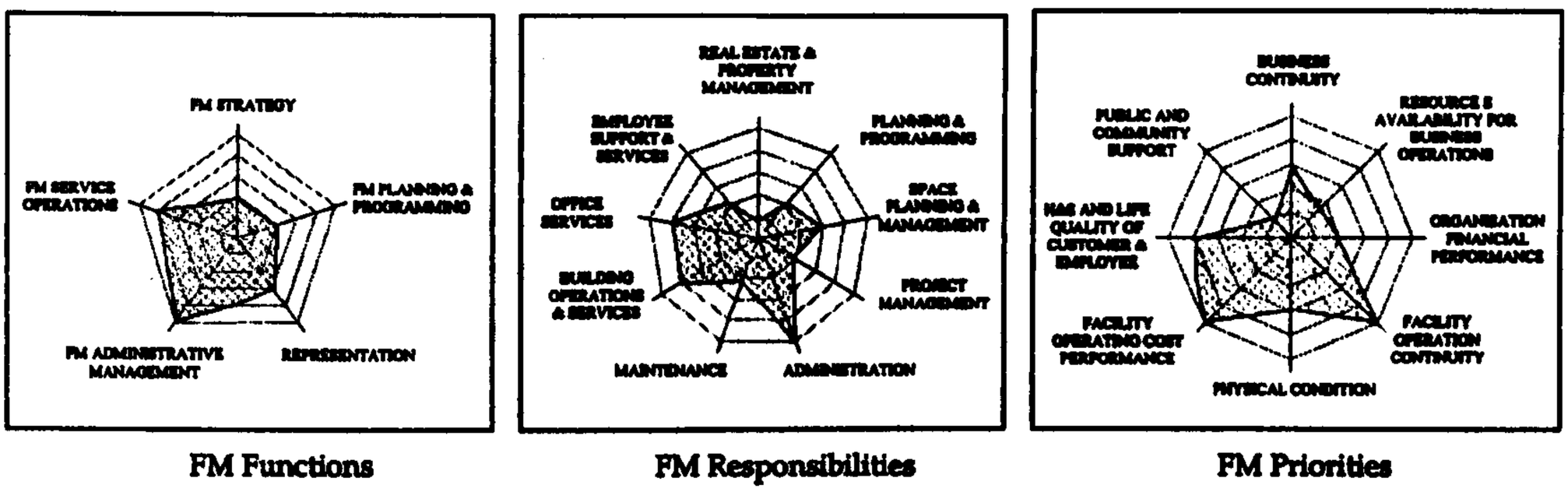
He also added:

> *"As the number of project implementations decreased, the main task of the function needed to shift from project-oriented to routine services-oriented (work)."*

At this stable stage the FM department retained its consolidated structure but with more concentration on routine and regular facility operations and services. However, the provision of work support continued to be its main objective with particular concern for

maintaining facilities in good condition to preserve workplace quality, and company image. The scope of FM responsibilities and services remained selective and were very similar to those during the previous stage of development. During this stable stage FM was positioned at a middle management level, but with less involvement in business planning and management issues than during the earlier period. Now its decision making processes became focused solely on tactical mid-range issues, particularly on cost-efficiency improvements and higher quality service delivery, which continued to be mostly outsourced. Key FM indicators were used to assess the performance of the FM department and to benchmark facility management services to selected quality standards. The indicators included facility service quality, cost, and other basic FM performance measures such as lag-time, breakdown rates, etc.

The FM characteristics during this stable stage are summarised in Figure 5(4). The predominant functions of FM concerned administrative management, service operations and organisational representation. FM responsibilities were directed to administrative processes, building operations and services, and to office services with high priorities on facility performance and physical conditions, operating cost, and the environment, health and safety of the workplace.



FM Functions FM Responsibilities FM Priorities

Figure 5(4) FM Emphases at the Stable Stage [A]3

5.1 [A]4 FM Changes in Case A

This case investigated two sets of change to FM arrangements: the first relating to the change from the inception stage to the rapid growth stage ([A]1→ [A]2), the second change relating to the transition from a growth phase to a more steady period of company operations ([A]2→ [A]3).

In the case of the first set of changes ([A]1→[A]2), the national economic climate was a factor that contributed indirectly to the need to change business strategy, which in turn required changes to FM support arrangements. There were significant organisational changes

between the inception and growth stages of development, with a rapid increase in the number of employees, the intensification of marketing and customer support activities with the full operation of all business processes. As a result the portfolio of facilities had to be expanded and diversified through the development of different types of facility at a variety of locations. In these circumstances, major changes to the scope, the functions of FM support arrangements were undertaken to respond to:

- The organisation's requirements for the acquisition and urgent occupation of additional facilities with minimum disruption to work operations and business continuity.
- The responsibilities of facility project management, development programming and timely completions.
- The responsibilities for managing multi-site rather than single site operational support.
- The associated problems of services procurement with an extended and diversified range of service requirements.
- The need to prepare for anticipated future changes in the quality and types of facilities required.

A new FM department was established, reporting to the company's HR division, to support the business development the acquisitions and development of facility resources, the extended demands of facility operations and support services, and to secure the full business operations in the further stage. The organisational structure of this FM was divided into six major functional groups, with an intensive staff recruitment and training programme. The key issues that induced the first set of FM changes were the inadequacy of FM capabilities including manpower and resources to support the larger facility size and the larger number of users, and the mismatch between the purpose, policy and role of FM and the new organisational needs at the development stage. Without basic changes to the FM arrangements, the organisation's business processes could have been at risk of operational failure. The changes improved FM capabilities in facilitating physical resource acquisitions and development in handling the full scope of facility management functions to support the demands of organisation and facility operations. The changes were planned and implemented proactively prior to the organisational and facility change. The process of FM change involved significant actions to transform, modify, and establish new working arrangements and was facilitated by external consultants in a professional and systematic manner. The degree of change was relatively major in relation to both strategic and operational capabilities and can be considered as a 'radical repositioning' of the FM arrangements. The main changes to FM support arrangements are summarised in Table 5(2) below.

Table 5(2) Changes to FM ARRANGEMENTS [A]1→[A]2

FM CHARACTERISTICS	CHANGE [A]1 → [A]2
Purpose & Policy	- Redirected to focus on strategic issues of business and facility resource acquisition and business operations support, with increased attention to planning and project management.
Key Issues & Priorities	- Refocused on facility development projects and resource deployment, planning and programming of space allocation.
Scope of responsibilities	- Modified to cover an extended range of responsibilities particularly at a strategic level concerning facility resource development.
Scope of services	- Extended to include a larger range of support services.
Primary Function	- Redirected with priority to project management functions in addition to an enlarged FM role.
Level of Management involvement	- FM department established as part of formal management structure of the organisation.
Level of Decision making	- Give decision-making authorisation at both strategic and operational levels of management.
FM Structure	- Transformed to a full-scale FM support operation with consolidated structure.
Resource Allocation	- Allocated a significant capital investment budget and a full operating budget for all support services.
Service Delivery	- Rationalised and extended within functional groups.
Performance measurement	- Established formal performance measurement arrangement concerning the completion and quality of facility development projects.

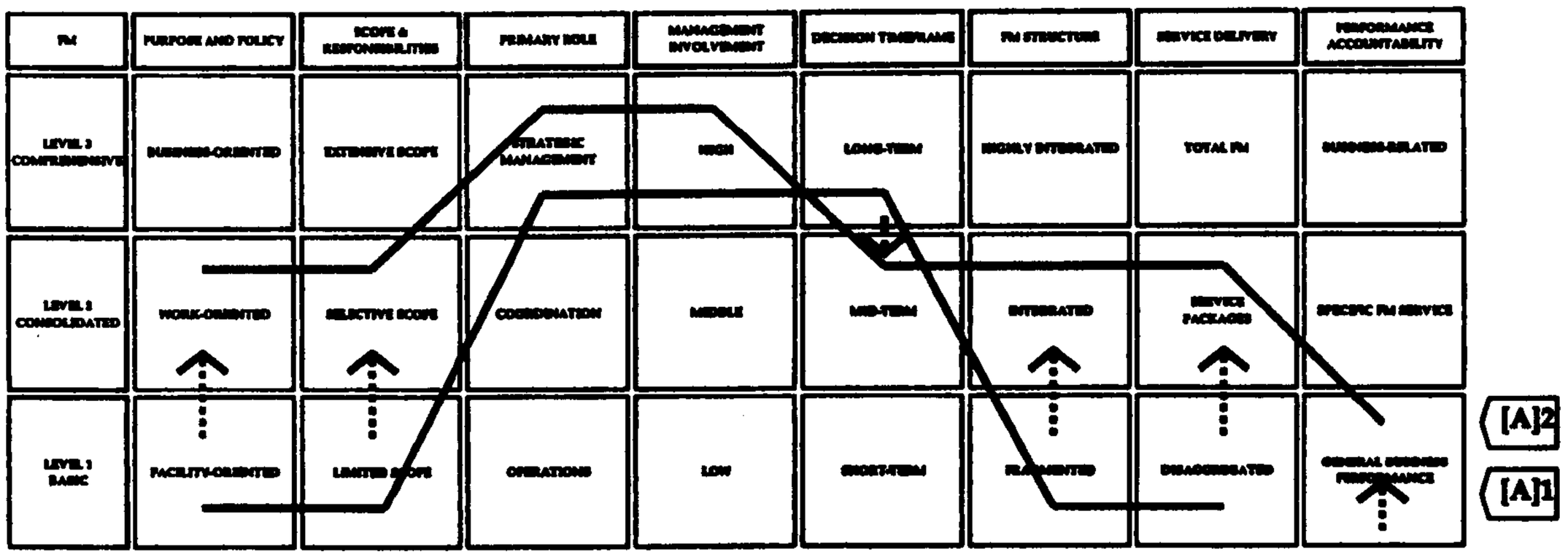
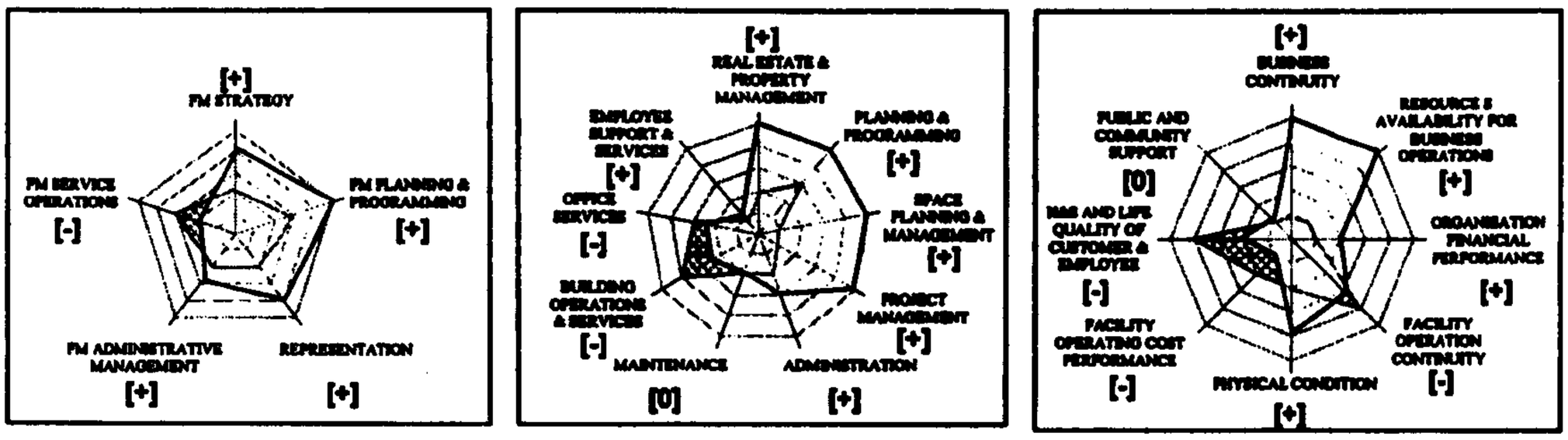


Figure 5(5) Changes to FM Profile [A]1→[A]2



FM Functions | FM Responsibilities | FM Priorities

Figure 5(6) Changes in Emphases [A]1→ [A]2

Overall, the FM profiles as shown in Figure 5(6), indicate that FM arrangements were elevated to a higher level as a result of these changes towards a more consolidated and integrated position with the scope and responsibilities of services widening considerably. Decision-making processes became concerned with tactical as well as strategic and operational issues focusing mainly on the problems of facility resource delivery. Shifts in the primary functions, responsibilities and priorities of FM due to the organisational changes between [A]1 and [A]2, are indicated in Figure 5(7). The general direction of FM changes are consistent with greater emphasis [+] being given to FM strategy, planning, programming, and organisational representation. The responsibilities shifted to property and space management, project management and delivery, with the priorities more given to the issues of business continuity, resource provision to support business operations, and the completion of facility acquisitions and their physical quality. Overall at this time, rather less emphasis was given to FM services and building operations, office services, operating costs and customer/employee concerns.

Turning to the second set of changes ([A]2→ [A]3), FM support arrangements were adjusted again as the organisation moved from the period of rapid growth towards a more stable set of business operations overall. At this stage the national telecommunication business had become much more mature and competitive. The organisation modified its business strategy with less emphasis on further intensive business expansion to focus on customer services and retention and maintaining a highly cost competitive strategy. These changes in business strategy had a direct impact on the role, responsibilities and priorities of FM which were rearranged to support the full business operations, to reduce operational risks and to retain work efficiency. The project management function in relation to facility development was no longer a primary concern the organisation. So attention was redirected to improve the routine management functions associated with facility services and operations and to the performance and efficiency of FM practice generally. The Head of department implied the difference of FM role between the growth and stable period that

"In the business setting up period, FM was one of the crucial and critical functions. I, as the Head of FM department, had to participate in weekly business meeting. All facility planning and management strategies were given high priority by the business management team. Now, as the facility development is no longer as critical, I am not required to participate in the business meetings any more. FM will be required to participate or become involved in business meetings only when there is a business unit need to expand or adjust its space or facility services. Shorter facility management have plans become the main concern instead."

The key issues that impacted on the second set of changes were the completion of facility resource developments, the increased emphasis on routine operational support, and the reduced need for facility project management capabilities. These changes mainly involved fine tuning FM practice to adjust the operational capabilities of FM to fit the changing needs of the organisation while retaining the efficiency and effectiveness of the FM department. The second set of changes were implemented reactively, the degree of change was minor and can be considered as an 'incremental adjustment'. These changes are summarised in Table 5(3) and profiled in Figures 5(8) and 5(9).

Table 5(3) Changes to FM ARRANGEMENTS [A]2 → [A]3

FM CHARACTERISTICS	CHANGE [A]2 → [A]3
Purpose & Policy	- Adjusted to concentrate on routine office operations and facility services delivery with emphasis on the support of business operations.
Key Issues & Priorities	- Shifted to routine operations with reduced emphasis on planning and project management functions.
Scope of services and responsibilities	- Reduced by curtailing facility project management responsibilities due to the completion of facility developments.
Primary Function/Role	- Adjusted by shifting to a primary role of coordinating operational management functions.
Level of Management involvement	- Adjusted by reducing involvement in business management meetings and strategy.
Level of Decision making	- Adjusted by reducing strategic involvement in business decisions to focus on routine and tactical levels of decision-making.
FM Structure	- Adjusted by eliminating the project management function, reducing functional sections to five: building services, administration services, EH&S/Security, property transactions, and FM helpdesk.
Resources	- Reduced responsibility to managing the operating budget.
Service Delivery	- Retained same arrangements for service delivery.
Performance measurement	- Re-established formal performance indicators for facility services delivery and operational management.

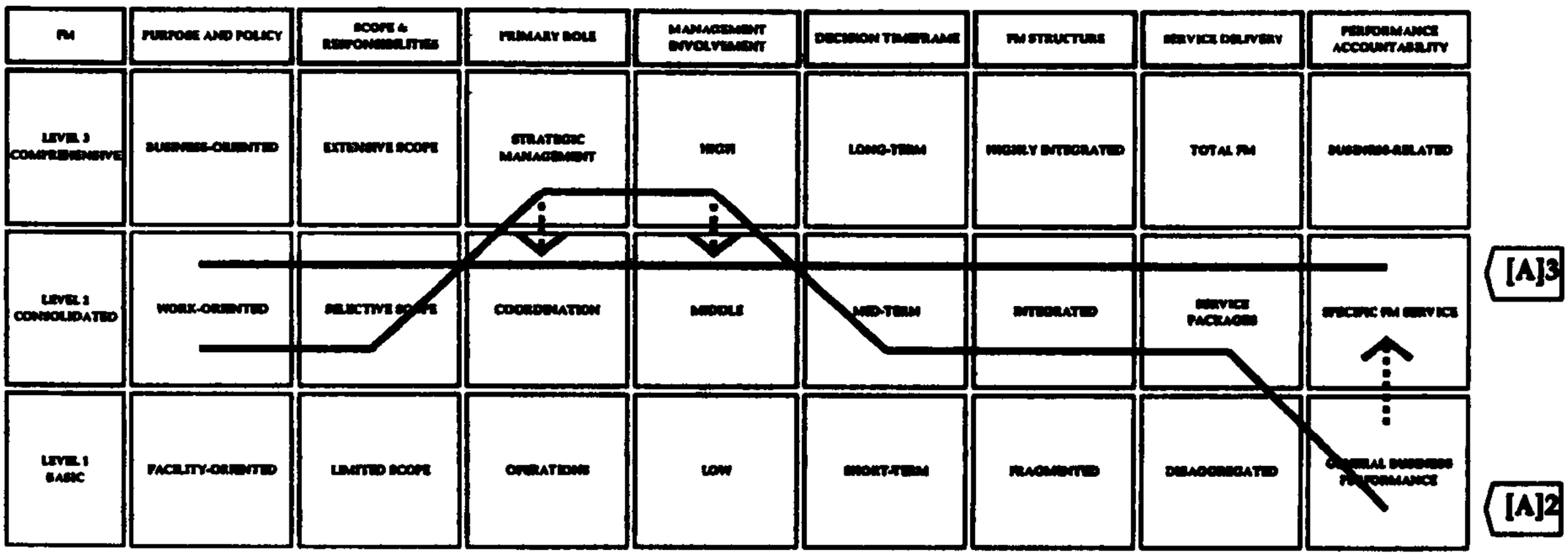


Figure 5(7) Changes to FM Profile [A]2→ [A]3

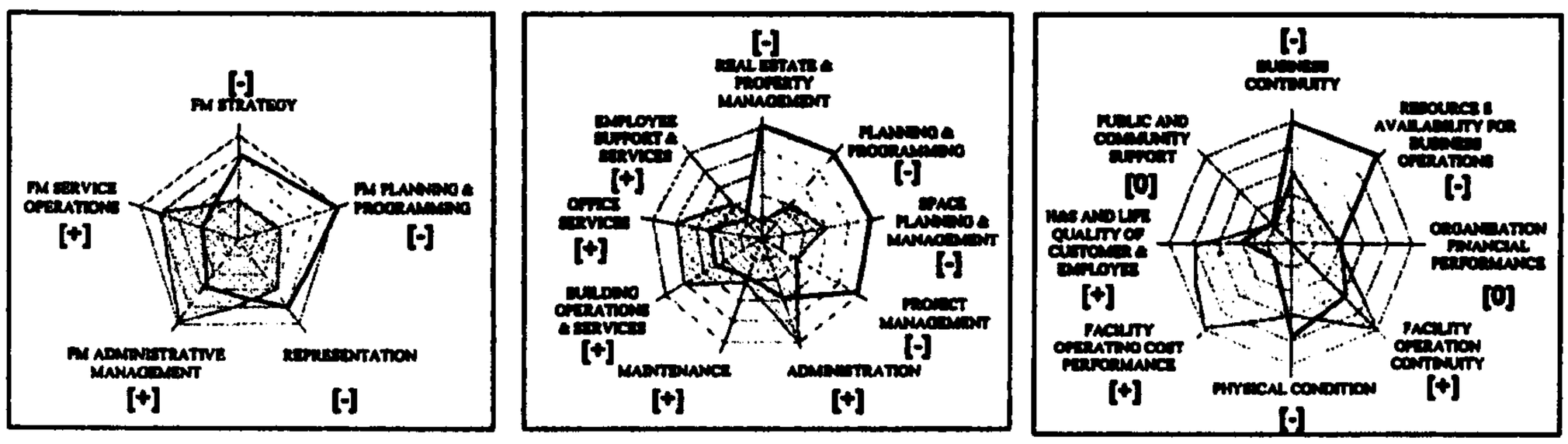


Figure 5(8) Changes in Emphases [A]2→ [A]3

Overall, a comparison of FM emphasis between stage [A]2 and [A]3 shows that major changes to the primary functions, responsibilities and priorities of FM were undertaken. Once the period of growth and the associated facility acquisition and development had been completed, the responsibilities were refocused on facility services, administration and regular service delivery. Now the issues of real estate management, facility planning, programming, project management and space planning and management had lower priority than in the past. Facility management concerns became less strategic and more operational in focus. While the priorities of FM practice during growth period were given to business continuity and the availability of business infrastructure resources, in contrast, during the stable period, operating costs and operational continuity became dominant priorities, together with concerns for the quality of workplace environment, and the health, safety and security of employees and customers.

Summary Findings from Case A

The general findings from this case investigation can be summarised as follows:

- The stage in an organisation's development is a key factor affecting the characteristics of the FM arrangements that are put in place. At each development stage the organisation tended to have different needs for the supply of facility resources and support services. The scope and levels of demand both increased and decreased over time and FM arrangements varied according to these changes. Based on Case A, a distinction can be made between a 'strategic orientation' for FM during unstable periods of rapid change, focusing on long-term planning and decision, and an 'operational-orientation' for FM during stable periods of consolidation and little change, focusing on mid and short term operational management and performance issues.
- The range of basic FM services was determined by the needs of business, facility operations and staff support requirements, again related to the state of organisational development. A 'limited' service range was adopted during the inception stage, and 'extensive' service range was provided during the growth period, and a more 'selective' service range was adopted to support the period of stable business operations.
- The scope of FM responsibility was mainly determined by the organisational policy at each stage of development.
- The approach to service delivery arrangements was determined by a combination of organisational policies, organisational resources, facility characteristics and the capabilities of local service suppliers. A similar approach to service delivery was employed throughout the period of investigation with no significant changes.
- The level of FM management involvement and decision authority within the organisation varied during the period under investigation. For example, the role of facility project management, with involvement and decision authority at a high level of management, was superseded by the role of facility operational management at a lower level of management involvement and authority within the organisation. In Case A, the selection of an appropriate role, emphasis and level of FM management involvement and decision authority timeframe was a result of the issues to be addressed at each stage of organisational development, rather than a permanent positioning of the FM function within the management hierarchy of the organisation.
- Changes to FM arrangements as a result of organisational change were undertaken both proactively and reactively. The proactive changes were undertaken in advance of planned organisational change, while the other changes to FM arrangements tended to be reactive in response to shifts in business and work priorities, and on the completion of tasks or stages of development.
- The main issues concerning FM arrangements of this case included operational capabilities and reliability, support service range and responsibility and organisational resource requirements.

5.2 [B] Case Investigation B: Facility Management Arrangement for the Headquarters Office of a Manufacturing Corporation

This case study is of the largest construction material manufacturing corporation in Thailand, established by royal decree. The corporation has a reputation for its good standards of corporate governance and its adoption of a socially responsible business approach with a high concern with community and public interest. It is well known for its employee care and welfare and the high standards of its support services. In the past the corporation had a strong unifying culture with a strong bureaucratic and hierarchical organisational structure. A national economic crisis in the late 90s led to a major organisational and business restructuring.

Between 1997 and 1999, the organisation suffered from the effects of the national economic recession in Thailand. The corporate debt increased to more than 50% due to the devaluation of the monetary exchange rate. As a result the corporation was forced to restructure its business and modify its management arrangements in order to retain market position and to sustain its business competitiveness and viability. In 1999, the corporation implemented a 'business restructuring' initiative to respond to the economic setback. The restructuring led to the creation of many subsidiary and affiliated companies to enable the organisation to focus on its core business, to shut down unprofitable parts of its business, to reduce the burden of central costs and to reverse the decline in profitability. This led to the spin off of all support functions into subsidiary companies, with a charge-back regime for facility and support service provisions.

This case study examines two sets of FM support arrangements at the head-office of the corporation, before and after its business restructuring in 1999, both during the 'maturity' stage of organisational development.

5.2 [B]1 FM Profile before Restructuring

Prior to 1997, the organisation had been growing at a steady rate. All business units were under one unified corporation, structured around eight business groups with a single shared line of support. The main offices of the eight business groups were all located within the Head-office of the corporation. The head-office was located on a site, divided into north- and south-zones by a local access road. In term of the importance of the head-office facilities

relating to the core operations of the organisation, the Vice-President for Finance, who was responsible for supervising the operations of FM, described the office facility as:

> *"...a support resource with medium criticality to the core operations (of the organisation), where its performance and risks might not much affect other operations..."*

He described the extent of risk from facility and support services:

> *"...the occasional failures of facility operations of the head-office could partially interrupt some of the office operations, but were unlikely to cause serious harm to core business operations, manufacturing and production, overall."*

FM had been an established department within the organisation for more than thirty years. It reported directly to the Vice President for Finance and Administration and was located within this division. The FM department had three main functions concerning planning, management and operations. The planning and management functions were centralised with a business support orientation overall, adopting a policy of 'work support'. Operationally, the FM department was tasked to deliver all essential facility and employee supports within the head-office, the primary concerns being: the efficiency and effectiveness of facility operations and support services; the provision and management of workplace supports; and the worklife quality of the headquarters employees.

FM had a key coordinating role in the administration of the internal facility support services, with all facility-related staff, both permanent and outsourced, being allocated to the department. The corporate policy assigned responsibility for all facility resources and support services to the FM department, which held a medium to low-level management position, with its primary focus on operational management. Periodically, the department also participated in business management meetings providing inputs to the tactical planning decision process concerning facility resources, services, future requirements and improvements. So overall, the FM department was involved in decision-making at both operational and tactical levels, including annual and short-term planning. The department had authority for the selection of service suppliers and for service contract tendering. A former head of Office Administration Services described the primary functions of the department as:

> *"...an internal facility services administrator and provider, co-ordinating and controlling facility support services and their service vendors."*

He described the characteristics of FM department as:

> *"... a centralised functions for non-core services. It was an internal function of the organisation, providing services for the organisation within a single culture."*

The department's scope of services and responsibility was extensive, covering all facility services and some business support services such as design management, the coordination of and construction project management, maintenance and repairs, building operations, office services, facility planning and programming, office space planning, and administrative management including office supply procurement, generally. A former head of Office Administration Services described the concept and scope of FM service as:

> *"The range and coverage of services were determined based on the demand of building uses and users of the organisation. Since the organisation regards employees as one of four critical concerns, quality of employee life and staff moral are priority issues. Thus the support services should be provided as much as possible to satisfy the needs of the employee in order to achieve the best performance and the maximum productivity of the employee. Some other services such as staff transportation were left out because it could cause conflict or add risks to the organisation. Some services such as car fleet was sold out and contracted back when the organisation saw a profit opportunity."*

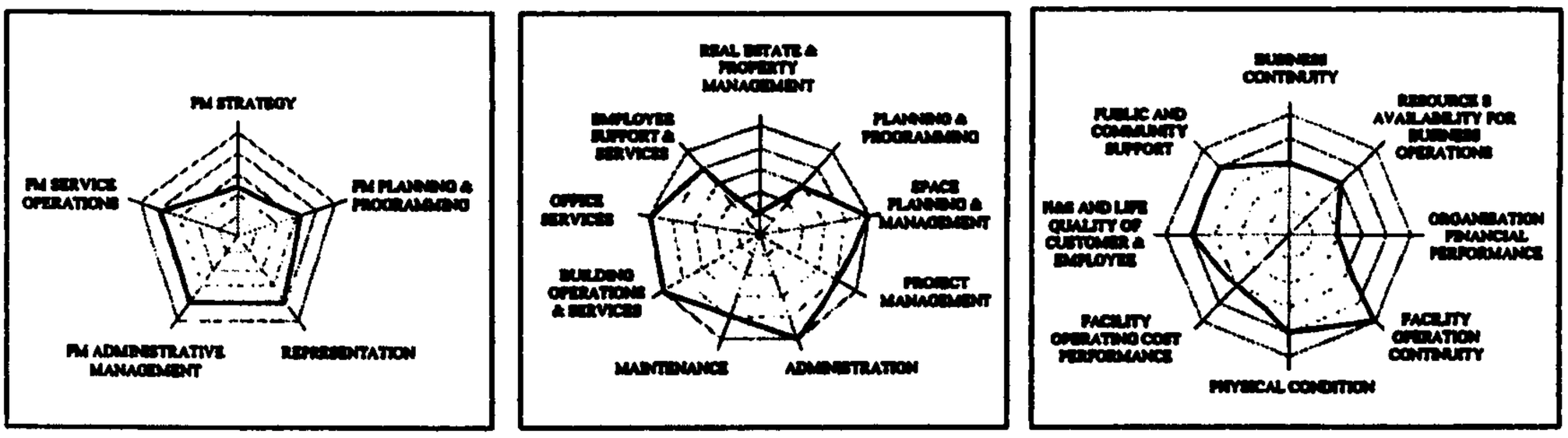
The new managing director of FM company described the characteristics of FM services before the restructuring:

> *"In the past, the policies and standards were based on the requirements of the corporation. It was authoritative facilities and service provision. Everything was based on the common standards of the corporation."*

The arrangements for service delivery were rather fragmented, with each service being delivered by an individual supplier or outsourced service provider. In assessing the performance of the FM department and its operations, the organisation applied a number of simple business indicators, such as the number of job completions, the satisfaction with service performance based on a set of service standards and the number of project implementations within the programmed time. The department adopted a zero-budgeting system to control its performance.

Figure 5(9) illustrates the general characteristics of the FM functions, responsibilities and priorities prior to the business restructuring. It shows that the primary functions of FM were during the period focused on service operations and client representation, with main responsibilities being on the space planning and management, the administration of services, maintenance, building operations and services, office services, employee support services, and project management. Real estate issues were not included within FM remit at this stage. At this time the priorities of the FM department were given to business operations continuity, facility services continuity, employee's comfort, convenience and safety, the efficiency and cost of services and the completion of the jobs and projects, all to satisfy the basic business needs of the organisation. A former head of Office Administration Services emphasised that:

> *"...The department had to give high priorities on the continuity of workplace and facility services, employee comfort, convenience and safety, the efficiency of services, cost effectiveness, the completion of jobs and action plans, and the satisfaction of the basic needs of the organisation."*



FM Functions | FM Responsibilities | FM Priorities

Figure 5(9) FM Emphases before Restructuring [B]1

5.2 [B]2 FM Profile after Restructuring

As part of the business restructuring process, the original FM department was reformed as a new and separate facility management company. The corporation transferred all of its facility management resources and services operations to this new FM company and in addition, included all of the functions associated with its corporate property portfolio management. The company, which had a more comprehensive set of responsibilities than the original department, adopted a functional matrix structure divided into core and site management functions (see Appendix A: Case Report B, page 230-243). It adopted a business-oriented policy with particular focus on the issues of utilisation, effectiveness and efficiency, income generation, tenant retention, service satisfaction, cost control, and the performance and convenience of tenant business operations. The tenants (affiliated companies) were well

served, supported and satisfied. The office space generated sufficient income to cover all operating and management expenses and the costs of maintaining the facilities in good working condition appropriate to the company's image. As a result of these changes the management and operations of the new FM company became much more entrepreneurial and professional with the concepts of 'customer-oriented', 'tenant-focused' and 'solution provider' being adopted. The new managing director of FM company indicated the needs of a new approach for facility management regarding the concept and objectives of the FM function, he said:

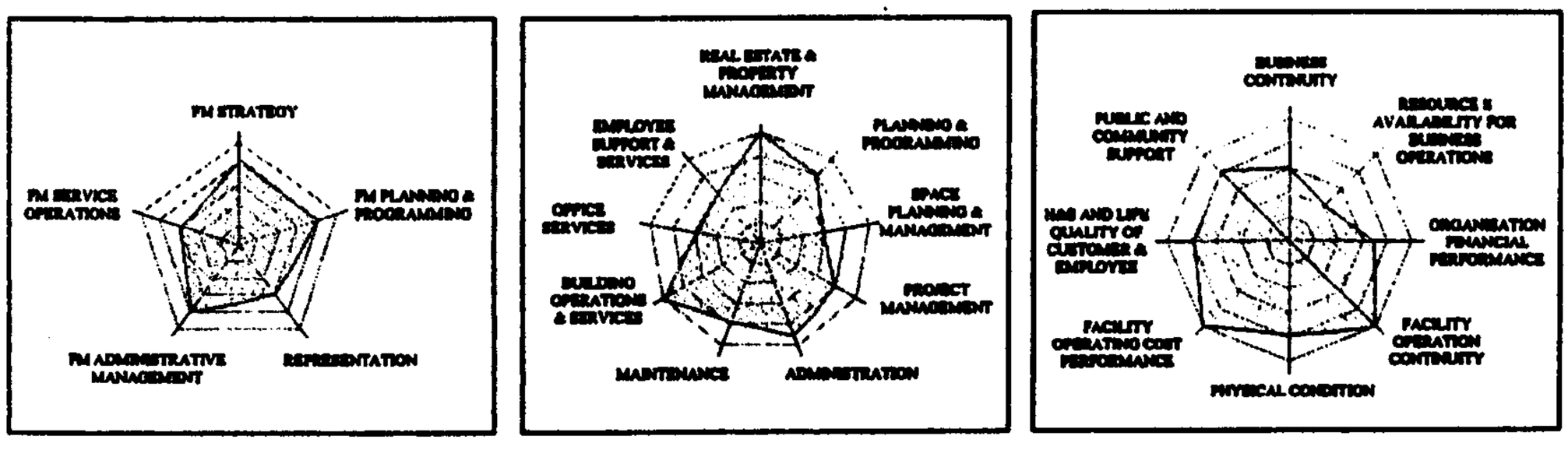
> *"...FM must respond to the requirements of the business, support the business operations so that the businesses are operated efficiently and effectively by not having to worry about handling non-core operations, to enhance the business companies to focus on their core operations and decrease burdens. It is the function that is entitled to cover all services and provide any non-core operations."*

After restructuring, the FM role was a combination of traditional facility and property management functions. It represented the corporation in all property management issues and extended its focus to include strategic planning and strategic management, while reducing involvement at an operational level. Its responsibilities covered all of the physical assets and related services within the head-office site, utilisation and long-term planning and development. FM issues now intended to be reviewed at a higher level of management within the organisation than hitherto, often as an integral part of the corporate management process. The FM company had direct two way lines of communication with the senior business managers of the corporation, particularly in relation to strategic decisions concerning the investment in facility resources and services. The FM company provided information and advice on facility improvements and the development of mid to long-term facility plans and strategy, while retaining authority over routine operational management decisions.

The range of services support continued to be extensive as during the pre restructuring stage, but now also included business support services, building engineering services, building inventories and data base, travel arrangements, and the procurement of consumables. In addition, as part of the new concept of 'solution-provider', FM attempted to make provision for a range of additional customised services as requested by individual tenants. The delivery of facility services was handled more systematically with services grouped into a smaller number of integrated bundles. Performance measurements became predominantly service focused, employing measures that covered a combination of business-related and facility-related metrics. The company continued to assess service performance

through outputs such as completion of task, service quality and facility utilisation rates. Tenant and user satisfaction indicators were planned as additional performance measures together with a few new indicators, such as revenue target achievements to assess the performance of the company.

The characteristics of FM arrangements after the business restructuring are shown in Figure 5(11), indicating that the primary function of the company now involved strategic FM, planning and programming and administrative management. FM's main responsibilities covered property services, planning and programming, building operations and support services, and to facility project management. As in the pre restructuring stage, the priorities continued to be given to business continuity, operational continuity but with greater emphasis on facility operating cost and performance.



FM Functions FM Responsibilities FM Priorities

Figure 5(10) FM Emphases after Restructuring [B]2

5.2 [B]3 FM Changes in Case B

All of the major changes to FM practices ([B]1→[B]2) were a consequence of the corporation's business restructuring process. Organisational support arrangements were restructure within a new subsidiary FM company to support the new business arrangement and to anticipate the requirements of the diversified business operations at later stage of development. The key issues that impacted on the restructuring of FM were the changes to the organisation's policy, business structure and corporate culture. Without changes to FM arrangements, the organisation's business operations would have face additional risks of interruptions and been less able to respond to the new opportunities that the business restructuring process had opened up. The changes improved FM capabilities to support the organisation's new resource allocation policy, organisational culture and its working patterns. It also resulted in a higher utilisation of the facilities and improved efficiency in the delivery of services. While these changes were planned, they were implemented reactively after the main organisational changes had been made. Overall the degree of change was relatively minor to

moderate in term of operational capability, but was quite significant in terms of strategic support. The decision of change can be considered as a 'structural transformation'. The changes helped to consolidate and integrate the planning and management of property, facility resources and support services at strategic, tactical and operational levels of decision. Details of the main directions of change are summarised in Table 5(4).

Table 5(4) Changes to FM ARRANGEMENTS [B]1→ [B]2

FM CHARACTERISTICS	CHANGE [B]1→ [B]2
Purpose & Policy	- Redirected from internal central facility service provision to include all facility and property management issues of the corporate head-office. - Refocused with both a property services orientation and an internal customer services orientation, within an income generation remit. - Changed service concept from 'responsive services' to 'service solution provider'.
Key Issues & Priorities	- Shifted to property services and income generation. - Shifted from operational and tactical to strategic issues.
Scope of responsibilities	- Modified by reducing some responsibilities for office services with more tenant choice, and by less involvement with office services for affiliated companies.
Scope of services	- Extended by providing special customised services for tenants, but reducing the scope of some office services.
Primary Role	- Adapted to the function of property management representative for the corporation by undertaking the role of Facility and Property Management Agent.
Level of Management involvement	- Promoted to a higher level with participation in business meetings and strategic advice concerning facility resources and their deployment.
Level of Decision making	- Transformed to a higher decision-making level with parity to other business entities: gaining authority to participate in business and management decisions.
FM Structure	- Adopted a matrix organisational structure in order to improve customer-service capabilities.
Service Delivery	- Restructured from individual service supply contracts of facility operations and maintenance into a single service bundle.
Performance measurement	- Increased to include user satisfaction and key FM and income performance indicators, e.g. cost-income ratio, etc.

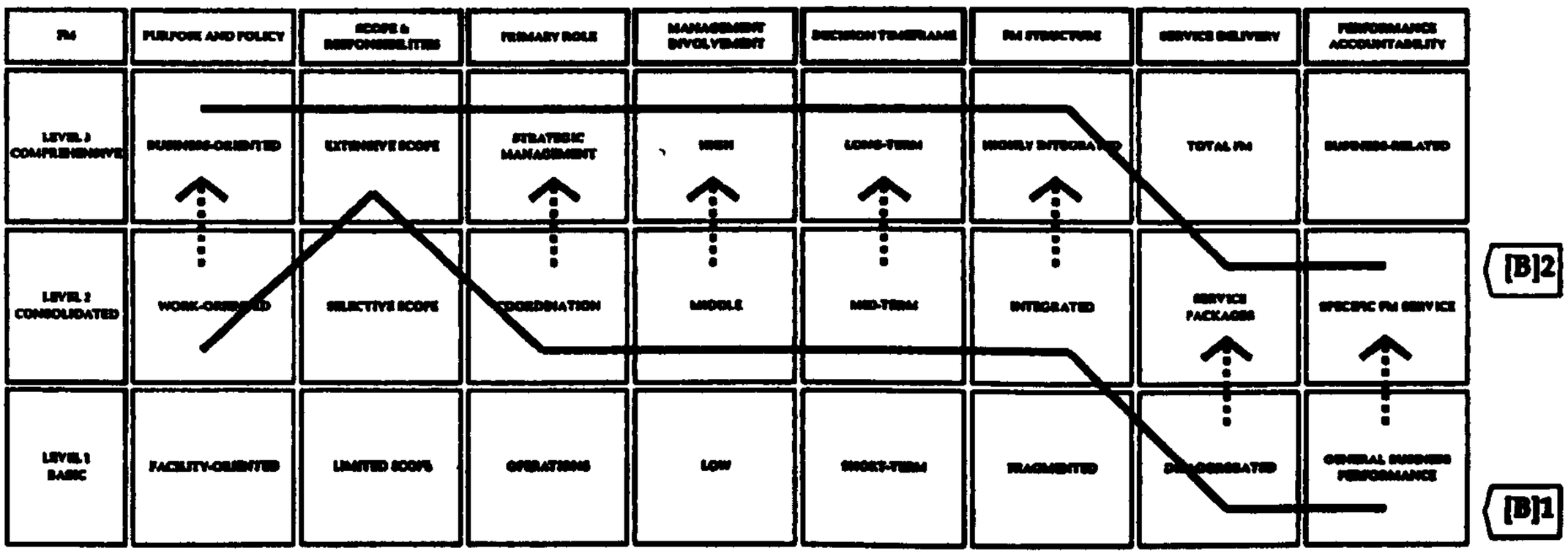
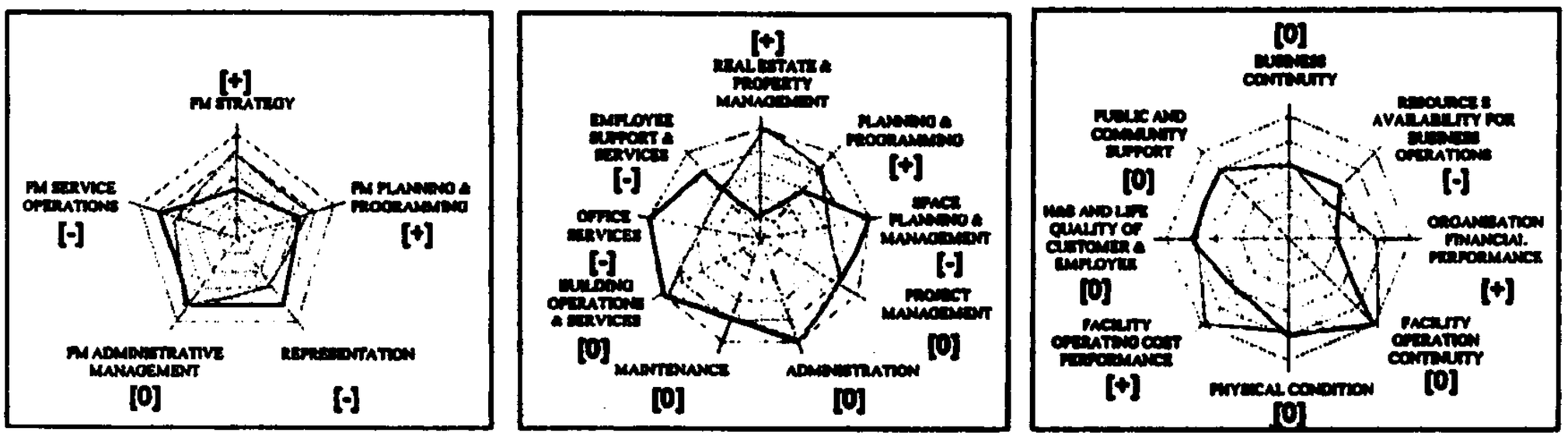


Figure 5(11) Changes to FM Profile [B]1→ [B]2



FM Functions | FM Responsibilities | FM Priorities

Figure 5(12) Changes in Emphases [B]1→[B]2

The patterns of changes are indicated in the FM profiles shown in Figure 5(12) and in the changes of emphasis indicated in Figure 5(13). Overall the FM profile was raised from a predominant Level Two position, prior to restructuring, to the comprehensive coverage position Level Three, after the restructuring process. This change to the level of FM involvement was accompanied by a shift of emphasis. Greater emphasis [+] was given to FM strategy and programming, with responsibilities shifting towards facility planning and property management. More emphasis was also given to the issues of income generation and to the operating performance of facilities. On the other hand, rather less emphasis [-] was given to FM services operations, client representation, space management, and to office and employee services as part of work priorities overall.

Summary Findings from Case B

The case included two sets of FM arrangements that were implemented to support the corporation at different times before and after restructuring. The general findings from this case investigation can be summarised as follows:

- The changes to the policy and purposes of facility management practice formed an important and integral part of the business restructuring process. They were a direct consequence of corporate policy changes and reorganisation. FM policy was directed initially to 'work support and operational continuity' but was superseded after restructuring to a direct 'business-oriented' FM policy, as part of the corporate resource base, to help income generation and to improve customer and tenant service and satisfaction.
- The diversification of organisational culture as a part of the business restructuring had a practical and direct impact on the scope of services that were required to support an extended set of demands.

- The range of basic FM services were determined by the needs of organisational policy, its business and facility operations and staff support requirements. Additional customised support services were introduced after the business restructuring to satisfy the diversifying needs of customers and tenants. A distinction can be made between 'essential services' that were determined by functional needs and 'discretionary services' that were introduced to create additional intangible benefits for business, customers and employees.
- The selected form of structure for FM operations was determined by facility site characteristics, the purpose and policy of FM and the concern for the delivery of services effectively and efficiency. A 'simple functional' FM structure was replaced by a 'customer-oriented' structure.
- The levels of management and decision authority, together with the timeframe of responsibility, were determined by the functional remit of the FM Company. The initial middle level of management involvement and mid-term decision range when FM was an internal support department was raised to a higher level of management involvement and a long-term range of responsibility as FM became a independent business entity.
- Initially, the capability of available service suppliers limited the choice of service delivery method. By the time of restructuring, an extended range of service options and supplier competencies led to alterations in service delivery arrangements. The importance of the availability of FM skills in the market can be a significant factor when selecting a preferred FM solution.
- The performance measurement arrangements reflected the work priorities and the remit of the FM function. The initial 'operational performance' measurement system was supplemented with 'strategic performance' indicators as business performance and income generation became crucial components of FM services.
- The main issues concerning FM arrangements of this case included operational capabilities and reliability, operational compatibility, support service range and responsibility, service delivery capabilities, local preferences and practices, organisational policy and support remit, and organisational resource requirements. The issues of business operations strategy and support requirements, long-term support capability became more concerned for the FM support arrangements after the restructuring.

5.3 [C] Case Investigation C:
Facilities and Property Management of an International Bank

Case study C investigated the FM support arrangements for a leading international bank that operates around the world. This bank, which has a British base, has been conducting business in Thailand for more than a hundred years. Initially it operated as a sub-branch of South-east Asia's Singapore Branch, offering limited corporate banking services, but has recently been expanded to provide a comprehensive range of banking services to the local customers, within a strong corporate management culture. The case study is concerned with the FM support arrangements under two sets of circumstances; those before and after a major business merger that served to implement the business change. The changes in FM practice were a direct result of the changes and expansion of the bank's business.

5.3 [C]1: FM Arrangements before Merger

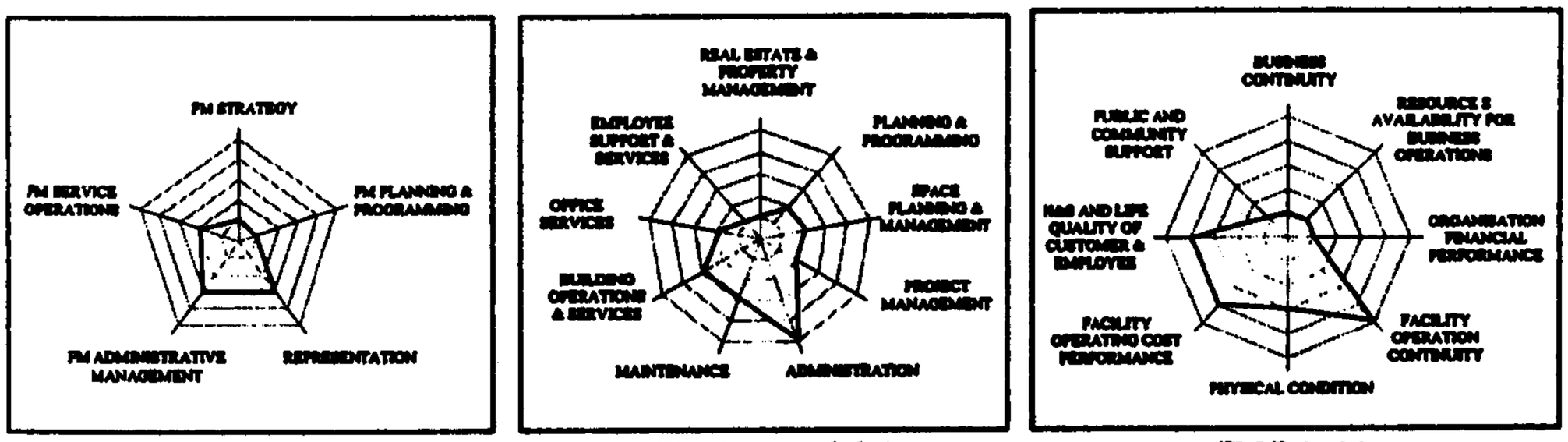
Before 1999, the bank had been operated in Thailand as a division of the Singapore branch, providing limited business banking services for corporate clients. At this time its requirements for facility resources and their management were rather modest and the FM group was located as part of the Central Service Division, not as an established department in its own right. As the result the FM organisation was seen as part of the central administrative services with a limited range of operations, functions and responsibilities. The primary objectives of the FM group at this stage were to ensure that the bank had appropriate and sufficient office space to support its operations, with adequate services for the facilities and staff, and services were being delivered as contracted with general emphasis on routine facility operations and support services. The Head of Administration gave his opinions on the limited operations of FM before the merger:

> *"the Bank had a small number of activities of facility and property management as it occupied a quite small amount of office space in a prime commercial office that provided all kinds of building services. The activities involving FM were largely routine and simple. There was no need for the division to have a full operation of FM functions."*

At this time the FM group had a coordinating function and was the property representative within the Bank. It routinely coordinated with the property management team who was responsible for common building services, and was also periodically responsible for property contracts management. The responsibilities of the FM group were limited to office

areas that were rented in a commercial building and their associated facility services. Their responsibilities included the handling of property leases and the day to day operational management of the bank's office, accommodation with decision-making authority limited to routine and operating matters. Outsourcing was the main method of service delivery through a number of simple and separate forms of contact. General performance measurements were used to evaluate the FM group and Central Service Division annually. These performance measurements concentrated on budgeting control and the performance of service providers.

The basic characteristics of FM practice before the merger are illustrated in Figure 5 (14). A limited FM function was focused on administrative functions and organisational representation, mainly concerning facility services. Building operations, services and administration was the main responsibilities with the high priorities on operational continuity, operating cost, the health and safety of employees and customers being regarded as the most critical.



FM Functions FM Responsibilities FM Priorities

Figure 5(13) FM Emphases before Merger [C]1

5.1 [C]2: FM Arrangements after Merger

Between 1997-1998, the national economic crisis caused significant problems for all local banks, and forced the government to permit foreign banks to merge with and invest in local banks. In 1999, given these business opportunities the case organisation expanded its business by merging with a local bank and began to provide a full range of banking services. As a consequences of the extended business operations, the number of employee increased from around 400 to more than 2,000 people, with an associated rapid growth in facility resources as indicated in Table 5(5).

Table 5(5) Growth in Facility Resources

	1999	2000	2001	2002	2003
Head office	1	2	1	1	1
Branch	-	76	45	41	41
Office space (Sq. m.)	5,000	65,000	43,000	41,000	41,000

The merger resulted in a different set of FM support arrangements with a functional structure based on six basic types of service provision that covered both facility planning and management functions. The FM department adopted a policy of active business support, focusing on the provision of adequate and efficient facility resources and workplace services. Immediately after the merger, the relocation and consolidation of head-office functions became priority task. The FM department undertook a leading role in the rationalisation and coordination of the organisation's facilities to support the merged business strategy. It reviewed which of the fixed assets should be retained, which should be sold and which sold and leased back. Its responsibilities covered all of the bank's buildings, its foreclosed property, and their related services. It also represented the organisation on all issues of property liquidation and operations with the Bank of Thailand. The FM department was located in a middle-management position, remaining within the central service division. The department head reported to four levels of management: the head of the central service division, the operation director for Thailand, the regional property director, and the global property management group at the head-office in the UK. The Head of Facility and Property Management (FPM) department explained the relationship between the organisation's change and the change to FM:

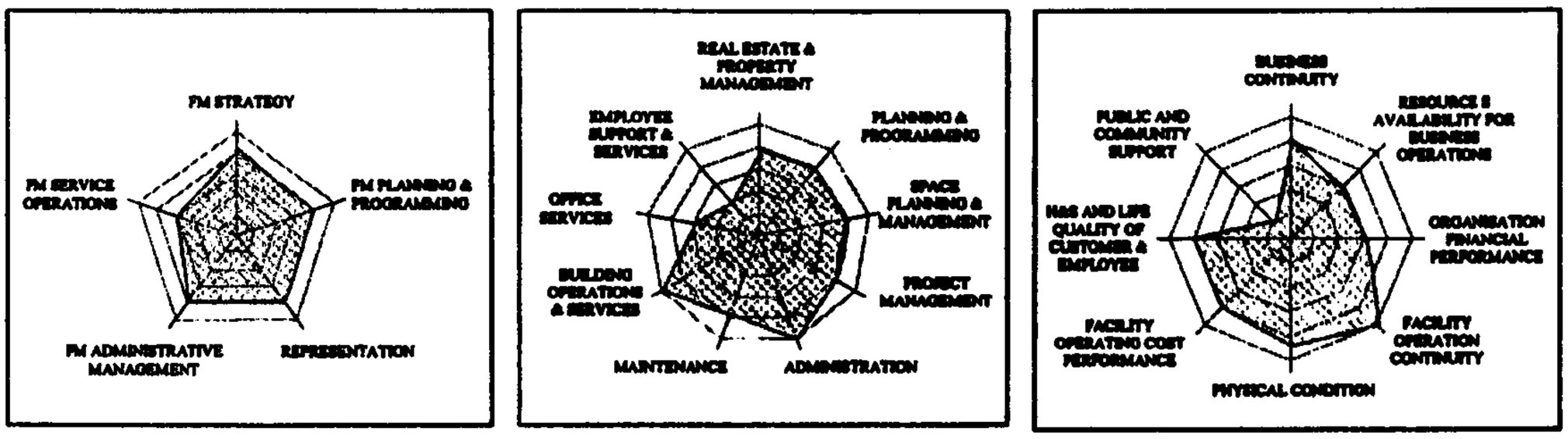
> *"...To be competitive our bank needs to initiate new service products to attract its clients and fit the new demands all the time. These new service products having different approach and operation processes consequently required different support services. Therefore, the property management department had to initiate projects and provide facilities to facilitate the new demands of these new operation processes. FM had to be concerned with supporting the operation processes involves providing space, building services systems, and support services based on number of the staff, technology use and requirement, workflow and work relationship, and department structure." "...FM has to provide support to the organisation and link to the operation processes by providing sufficient space and building services that are required for processing the operation, in terms of quantity and quality ... three main*

issues of FM function of the Bank: safety, cost saving, and time-efficiency in service provision."

Formal lines of communication between business management and facility management were put in place, with communication and authorisation primarily at a mid-range level concerning tactical issues of decision. The FM department was empowered to undertake all tendering for facility services contracts and the selection of suppliers. It was responsible for proposing and setting out the annual investment and facility operating budgets and the setting of performance targets. FM services responsibilities were selective. They included facility operations and maintenance, churn management, cleaning, property project management, help-desk functions, and property disposals. The FM department was not responsible for security and telephone services. Outsourcing remained the main method of service delivery, but with a more systematic approach to service groupings than hitherto. The FM department monitored performance on regular basis with measurements of customer and employee safety, cost efficiency and operational performance using specific FM performance indicators. Overall, the performance of the department, its achievements in meeting planned targets and cost savings across ten key performance bases were assessed annually. When asked about the arrangement of FM performance measurement, the Head of FPM replied:

"...Key performance indicators can vary by country. But indicators can be common if it is required by the regional head office. In Thailand, indicators have been set in order to evaluate performance of each function. The performance criteria are based on the corporate policy which can vary from year to year."

The characteristics of FM practice after the merger are profiled in Figure 5(15), indicating a new balanced position overall, with equal emphasis being given to operational and administrative functions on the one hand, and to strategic and planning functions on the other hand. While administration continued to be main responsibilities, property and space management, building operations and services and facility project management now received equal attention. However, little emphasis was given to employee, public and community support issues as this was the responsibility of the Bank's public relations department.



FM Functions FM Responsibilities FM Priorities

Figure 5(14) FM Emphases after Merger [C]2

5.1 [C]3: FM Changes in Case C

The merger and expansion of the Bank's business activities in Thailand, involved changing from a steady-stage to a diversifying stage in its operational development. The Bank modified its organisational structure in response to the larger volume of business transactions and operations and changed its business priorities to focus on general consumer banking services. Its customer portfolio and base became much more diverse, with reliance on its retail branches as a key business channel for the delivery of financial services. The head-office was mainly a back-office operation but the size of the bank's property and facility portfolio had to become much larger and more diverse with a variety of facility types, tenure arrangements and locations.

The merger and the expansion of the Bank's business activities resulted in a radically different set of requirements for facility and service support. Furthermore, the facility management function was seen by the Bank as a key means for facilitating the implementation of the merger and managing the transitional arrangement associated with property and workplace services. In turn, the FM department within the Central Service Division needed to upgrade its skill base and capabilities in order to cope with the new set of business expectations, support requirements and the expansion of business and facility operations. As a result the following actions were implemented:

- Redefinition of business operations, requirements and user needs for facility and workplace support services;
- Expansion and diversification to the scope of responsibility generally;
- Restructuring and expansion of the FM department within the Central Service Division to support the enlarged scope of services;

- Recruitment of a new property and facility manager, and ten additional FM staff, plus staff transferred from the local bank.

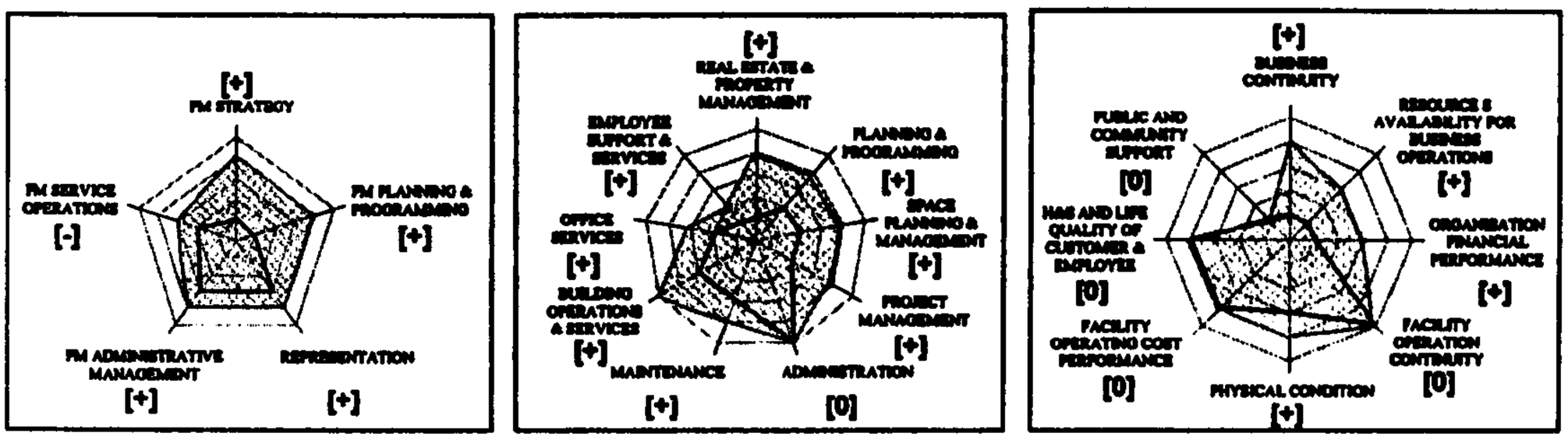
The changes improved the capabilities to support the new business operations and the capabilities of FM to support the increasing demands of facility operations and building users due to the merger. Overall, the degree of change was significant in term of FM's operational capabilities to support the new business operations of the Bank, but relatively minor in term of its strategic contribution to organisational support as there was no change to FM function and role according to the corporate property and facility policy. The change was largely unplanned and discrete, implemented simultaneously with the business merger as such it can be considered as a 'practice transformation'. The changes are summarised in Table 5(6) and profiled in Figure 5(16) below.

Table 5(6) Changes to FM ARRANGEMENTS [C]1 →[C]2

FM CHARACTERISTICS	CHANGE [C]1→ [C]2
Purpose & Policy	- Developed from a position of reactive management of disparate services to integrated business support management - Changed services policy to a business support orientation of 'workplace support', continuing to focus on operating and maintaining facility resources.
Key Issues & Priorities	- Diversified to cover the issues of work operations continuity and support, workspace allocation, health, safety and security of customer and employee, and the rationalisation of facility retention.
Scope of services and responsibilities	- Extended the scope of responsibilities to cover both internal facility resource management and the foreclosed property asset. - Diversified by extending the scope of services to cover facility operations and maintenance, building services and user supports.
Primary Role	- Extended to a full facility management role.
Level of Management involvement	- Retained under the Central Service Division, with four lines of middle level management reporting.
Level of Decision making	- Modified decision-making powers to cover the enlarged scope of responsibilities.
FM Structure	- Expanded to a full FM department within Central Service Division, but with a new functional structure.
Service Delivery	- Extended services contracts into ten major groups based on type of service and skill specialisation.
Performance measurement	- Extended from general performance evaluation to include the evaluation of facility operations and service delivery.

FM	PURPOSE AND POLICY	SCOPE & RESPONSIBILITIES	PRIMARY ROLE	MANAGEMENT INVOLVEMENT	DECISION TIMEFRAME	FM STRUCTURE	SERVICE DELIVERY	PERFORMANCE ACCOUNTABILITY	
LEVEL 3 COMPREHENSIVE	BUSINESS-ORIENTED	EXTENSIVE SCOPE	STRATEGIC MANAGEMENT	HIGH	LONG-TERM	HIGHLY INTEGRATED	TOTAL FM	BUSINESS-RELATED	
LEVEL 2 CONSOLIDATED	WORK-ORIENTED	SELECTIVE SCOPE	COORDINATION	MIDDLE	MID-TERM	INTEGRATED	SERVICE PACKAGES	SPECIFIC FM SERVICE	[C]2
LEVEL 1 BASIC	FACILITY-ORIENTED	LIMITED SCOPE	OPERATIONS	LOW	SHORT-TERM	FRAGMENTED	DISAGGREGATED	GENERAL BUSINESS PERFORMANCE	[C]1

Figure 5(15) Changes to the FM Profile [C]1→[C]2



FM Functions FM Responsibilities FM Priorities

Figure 5(16) Changes in Emphases [C]1→ [C]2

Overall, it can be seen that the FM profile moved to a higher level of management involvement in organisational support, consolidating its role to Level Two during the period investigated by this case study. Figure 5(17) overlays the characteristics of FM practice before and after the business expansion. It indicates a consistent position where, in most facets of FM practice, its functions, responsibilities and priorities, the scope and scale involvement in the business support environment had been extended [+]. The main responsibilities of FM had concentrated much more emphasis to real estate and property management, workspace planning and management, and facility operating issues generally. Its priorities had shifted towards business operations and their continuity, the availability of facility resources, and financial performance, with continuing concern for physical condition and operation of the facilities.

Summary Findings from Case C

This case covered two sets of FM arrangements, before and after the organisation's business merger. The general findings from this case investigation can be summarised as follows:

- The changes to facility management practice were a direct consequence of business expansion and the rapid increase in the number of facilities. The extension of FM capabilities from a 'basic' to a 'consolidated' set of arrangements after the business merger was essential to support the new and extended set of business demands and work operations.
- The range of FM services and responsibilities was determined by the needs of business operations and the diversification of the facility portfolio, its size, distribution and tenure characteristics.
- The refocusing of the Bank's business strategy, from the provision of 'limited' to 'extensive' business services, demanded that a more effective set of support arrangements be put in place with re-emphasis of FM priorities, from a 'facility-focused' to a 'work-support' orientation.
- The business strategy was the key factor affecting the characteristics of the Bank's facility resource portfolio and management. This relationship in turn impacts FM purpose, policy and role overall.
- The characteristics of the Bank's business operations in Thailand, the constraints of the local context and the availability of FM service suppliers had a direct practical impact on the implementation and adjustment of the organisation's global corporate FM standards.
- The extent of performance accountability was related to the scope of FM services and responsibilities, with the performance measurement systems expanding to cover the enlarged FM remit in the post-merger period.
- The main issues concerning FM arrangements of this case included operational capabilities and reliability, support service range and responsibility, service delivery capabilities, and organisational policy and support remit.

5.4 [D] Case Investigation D:
Physical Resource Management of a University

Case study D concerns the FM arrangements and practices for a major university in Thailand. This is a government university with high national prestige, located in Bangkok with three extensive city campuses. The University provides a comprehensive range of academic programmes covering a wide area of academic study and knowledge. Since it was formally established in 1917, the University has had steady growth with its facility resources being developed and expanded largely in line with the increase in student numbers and the growth in teaching programmes. Prior to 1998, the University focused on under-graduate education and its teaching programmes. It had positioned itself as a major teaching university with widening programmes of undergraduate studies. The long-term planning and development of the University tended to reflect the government's strategies and plans for higher education with the university following the general administrative practices of the government.

In 1998 the University implemented a major change in its corporate policy to move from its position as a teaching university to a research-led institution while maintaining its teaching programmes and reputation. This fundamental shift in policy led to the re-engineering of the University's academic strategy, its organisational structure, and its working and teaching patterns. At this time it also began to change its management structure through the decentralisation of academic management functions to individual faculties, while centralising administrative support services generally. At this time the Government had also introduced new national education policies with the intention that universities should become self-governing with a reduction in government subsidies, largely as a result of the economic recession. This study investigated FM practices in the two circumstances: before and after the University's reengineering program.

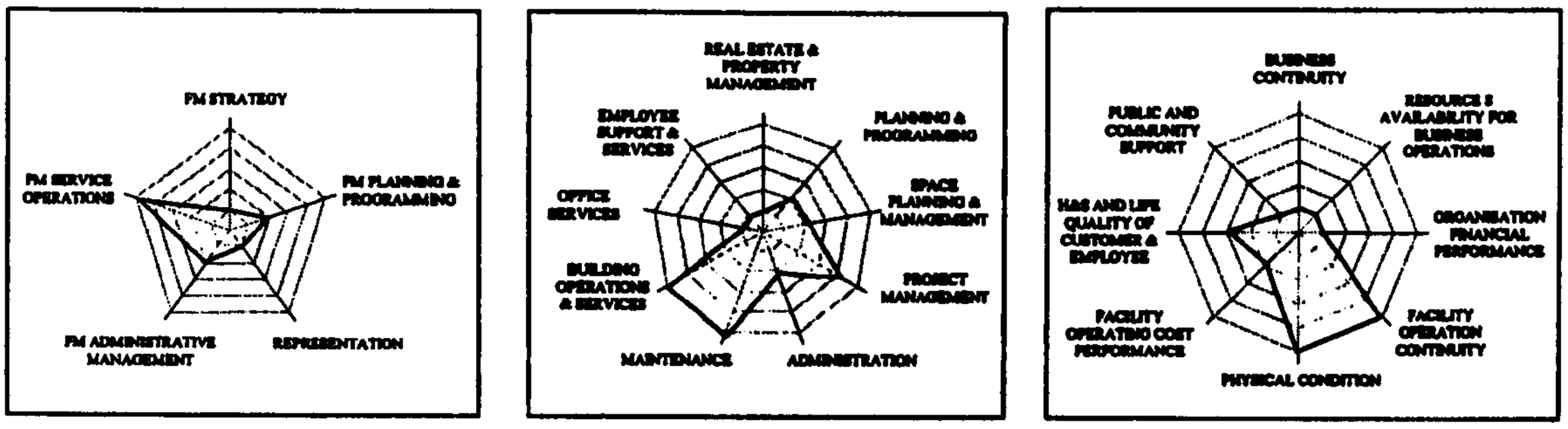
5.4 [D]1 FM Profile before Re-engineering

Before the period of re-engineering, the University's facilities and their services were managed by the Buildings and Grounds Division of the University. The Division which was a part of the Office of the University President, adopted a typical and traditional approach to FM that was common within public sector government organisations. It treated the functions of facility planning and facility operations separately within a rather fragmented

organisational structure. The Division consisted of six sections: Design and Construction Management, Security, Facility Maintenance, Gardening and Housekeeping, Building Management and Administration. The Division had a predominantly facility-oriented focus with a primary purpose to maintain and repair the infrastructure, buildings and engineering systems of the campus in good workable condition. Periodically, the Division was tasked to deliver construction projects for the university but its main focus was on routine technical operations, services, and maintenance.

Overall, two issues tended to dominate the work of the Division; the operational conditions of University facilities and the delivery of construction projects. FM undertook the function of facility services operator. The division was positioned at a basic level of routine day to day operational management providing maintenance and repair skills and superintending the basic campus and building services such as cleaning and security. While the Division was responsible for all communal and central facilities and the campus infrastructure, its services were relative limited, with basic services arranged to be delivered on an individual service by service basis by in-house staff. The Division rarely participated in university planning and management meetings, and its relationship with the academic structure of the University was a one-way line of communication from the academic authorities to the Division. From time to time the Division was also responsible for the university's building construction projects, but it was not involved in their campus planning and in development strategy generally. At this time there were no formal performance measurement systems for facility use and services management, but individual staff performance assessments were undertaken for rankings and salary promotions.

Figure 5(18) summarises the main characteristics of FM practice during this period, indicating the primary FM function of facility services operations, with the main responsibilities on building services, maintenance and construction project management. Its priorities were given to the issues of physical conditions and the continuity of facility operations.



FM Functions | FM Responsibilities | FM Priorities

Figure 5(17) FM Emphases before Merger [D]1

5.4 [D]2 FM Profile after Re-engineering

A former President of the University implied the importance of facility management in the long term as follows:

> *"There might not be much new building development, but there will be a great deal of system renovation and upgrading, inside/interior renovation and modernisation. In order to avoid obsolescence, the development of new facilities and renovation of existing facilities needs to be more precise to the needs and technology...We realised that physical management should incorporate management and planning - without planning and information, it cannot manage effectively and efficiently. It also recognised that it is necessary to centralise the facility services in order to improve efficiency of resource utilisation, and cost-effectiveness."*

As part of the re-engineering process to transform the University from a 'teaching' to a 'research-led' institution, the Buildings and Grounds Division was replaced by a new infrastructure and services organisation - the Office of Physical Resource Management (OPRM). The new OPRM was positioned in the University's governance structure alongside the Office of Academic Affairs, the Office of Human Resources and the Office of Finance, all reporting to the University President directly. Overall, the OPRM was a consolidation of all facility and related services within the University. It adopted a functional structure based on the types of work to be undertaken and had three main divisions: an architectural and infrastructure division, a buildings and grounds division, and a security and transport division. A former Vice-president for Physical Resources Management stated:

> *"It was a main aim that with the new integrative organisation structure and higher level of management as a result of the re-engineering, the FM function will work more effectively in the long-term. The promotion of FM function is a part of the*

longer-term plan to consolidate all facility operations and services throughout the organisation."

The OPRM was given access to the University's management decisions and meetings and became responsible for the preparation of annual bids to the capital investment funds committee for facility developments and improvements. The principal function of the OPRM was facility resource management, planning and coordination. It had comprehensive responsibility for all central infrastructure resources and was selectively responsible for planning of physical developments and improvements, and the management of building space use across all of the communal infrastructure and facilities within the campus areas. The OPRM's primary coordinating role was in relation to the outsourced facility services and their delivery, although some services were operated by its own in-house team.

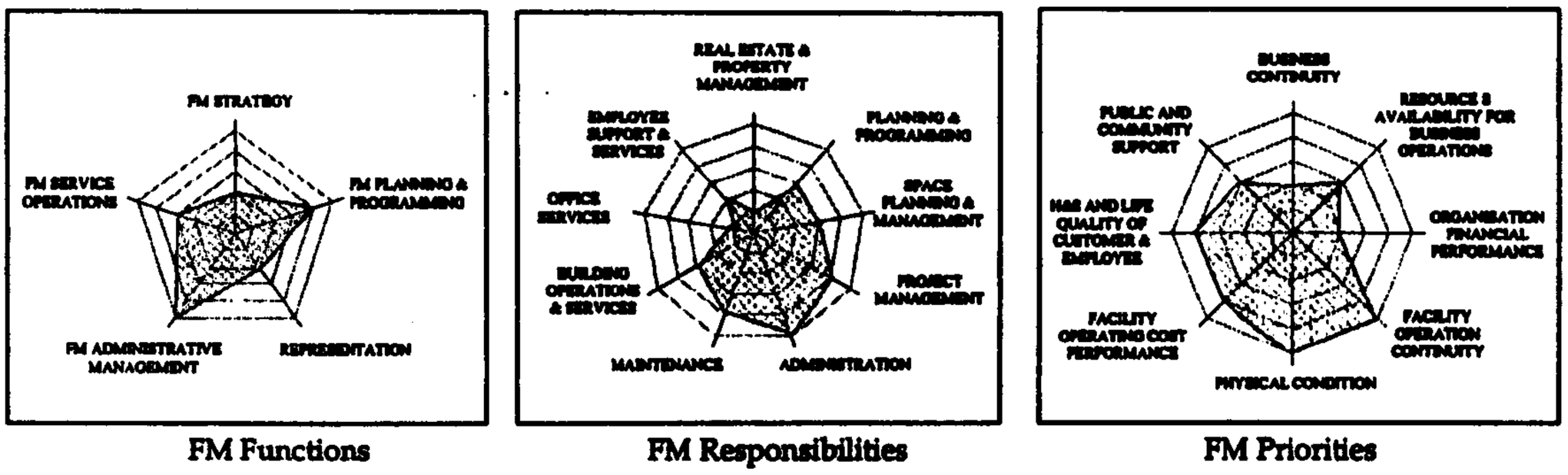
After the re-engineering, FM policy was redirected to focus on the support of academic activities - the core operations of the university - in addition to the physical issues of facility operations and maintenance. While the main responsibilities were still concerned with physical issues rather than academic support services, the adequacy of space and services for use, the safety and security of users both staff and students, resource utilisation and the control of costs in use, all began to receive more attention.

In terms of the level of management involvement, FM considerations were promoted significantly as a result of the University's re-engineering process. It now became a part of the business management arrangements with regular participation in the University's management meetings on a two-way communication basis. The OPRM was expected to make proposals and action plans for facility resource improvements over the medium term and to have more involvement in strategic long-term decisions.

The support services remit of the OPRM included building design, construction and project management, infrastructure maintenance and operations, building services, security, and transport services. These services were delivered by a combination of in-house and outsourced arrangements, initially still on an individual service basis. General business performance measurements were introduced to assure accountability for meeting annual targets, the quality and costs of the services stream, and plan implementations, and other quantitative targets.

Figure 5(19) illustrates the characteristics of FM practice after the reengineering process. It shows that the primary functions of FM continued to involve administrative

management, but now included planning and programming. Its main responsibilities were on administration, maintenance, project management, and facility planning, and priorities were given to operational continuity, physical conditions, the health and safety of staff and students, performance and operating costs, with increased concerns for resource availability and community support.



FM Functions FM Responsibilities FM Priorities

Figure 5(18) FM Emphases after Re-engineering [D]2

5.4 [D]3 FM Changes in Case D

The implementation of the University's reengineering program resulted in fundamental changes to the organisational and management structure and to work procedures. Organisational management policies were reversed with the decentralisation of academic management and procedures and the centralisation of support services arrangement. In relation to physical resource support, the university became more concerned with the campus environment generally, the condition and appearance both inside and outside its facilities. It allocated resources to increase the communal and shared academic facilities with plans to diversify facility uses to accommodate the needs of a future 'research-led' university.

The reengineering of the University led to an imbalance between the capacity and capabilities of the existing FM organisation and its personnel, and the strategic and operational responsibilities and skills required within the new Office of Physical Resource Management. The FM arrangements were restructure to support new organisational policy and management structure and to adjust the FM strategic supports and operational capabilities to fit the new structure. The key issues that induced the FM change were the recognition of obsolete FM practices, the inadequacies of existing FM knowledge and skills, the limitations of the technical staff responsible for operations and services, and inconsistencies between FM policies and the new organisational policy and the lack of a resource management approach. The changes were implemented through:

- A consolidation of facility services and operations;
- An expansion to its scope of service and responsibility;
- Restructuring the FM organisation;
- The adoption of more outsourcing arrangements;
- The establishment of a system for FM accountability.

The changes improved the operational capabilities of the FM team within the OPRM to handle the increased complexity of facility operations and the strategic capabilities of FM to support the longer-term objectives of the University. In the short-term it aimed to improve cost-efficiency and facility service performance. The changes were planned and implemented in parallel to the organisational management restructuring overall. They included the consolidation of facility services, planning and management, within the organisational restructuring and repositioning. Overall, the degree of change to operational support capability was moderate while the change degree of strategic support capability was relatively major, and can be viewed as 'structural repositioning' process. These changes are summarised in Table 5(7) below.

Table 5(7) Changes to FM ARRANGEMENTS [D]1→[D]2

FM CHARACTERISTICS	CHANGE [D]1→[D]2
Purpose & Policy	- Transformed from an operational to a resource and services management position.
Key Issues & Priorities	- Diversified to include academic support services in addition to the physical issues of condition and maintenance. -
Scope of responsibilities	- Modified by extending responsibilities to a tactical planning level concerning physical resource management, and the management and improvement of central facilities and services.
Scope of services	- Modified with some diversification of building and communal services.
Primary Role	- Modified to a more major position of management and coordination.
Level of Management involvement	- Raised to a higher level of management involvement and responsibility.
Level of Decision making	- Raised to a more direct access to the capital investment funds of the university and tactical decision making with planning authority.
FM Structure	- Restructuring of the FM organisational structure to support those functions transferred to the Office of Physical Resource Management.
Service Delivery	- Diversified to use both in-house and outsourced suppliers.
Performance measurement	- Created a new set of specific performance measurement system to improve FM accountability.

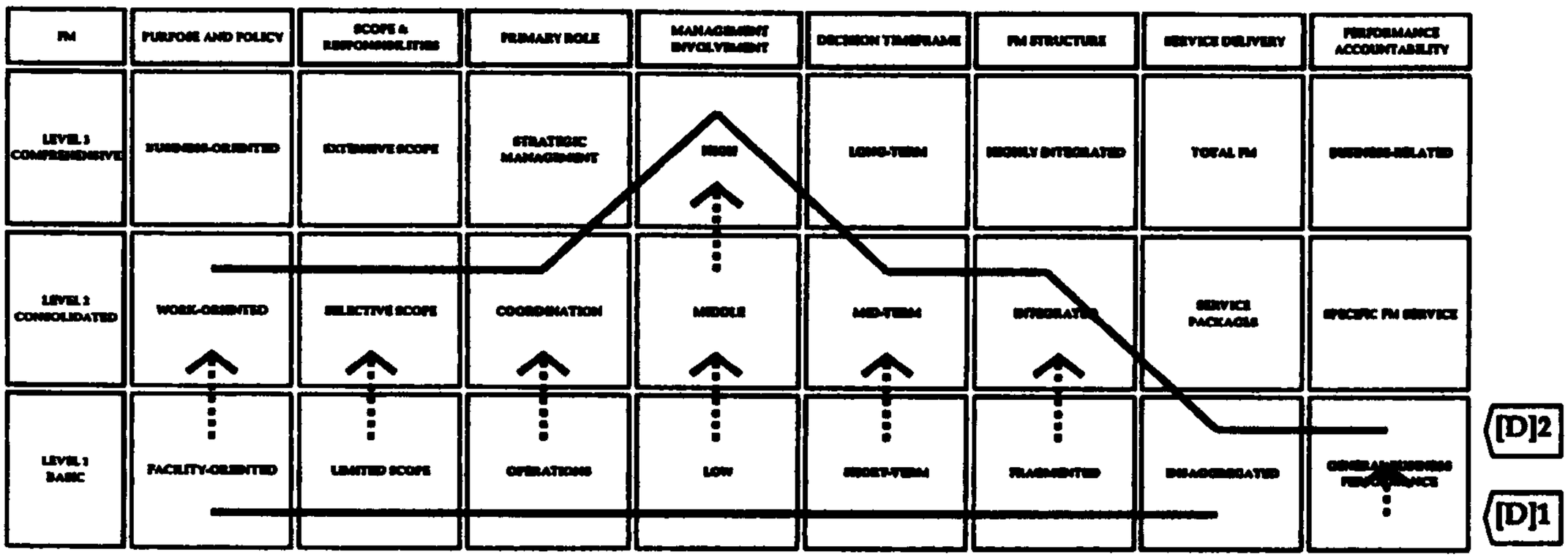


Figure 5(19) Changes to FM Profile [D]1→ [D]2

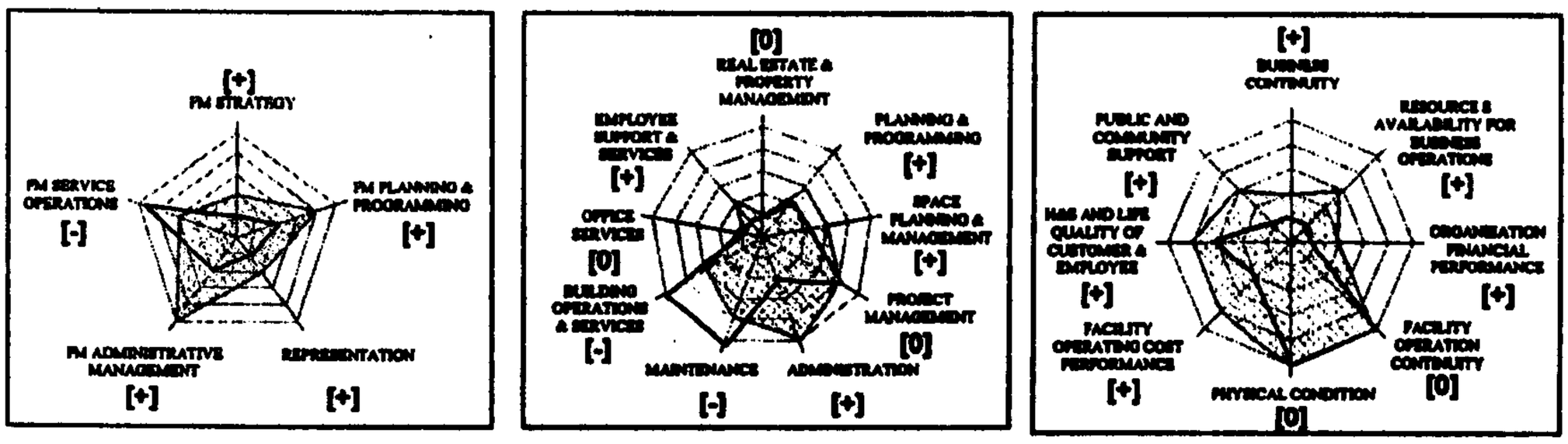


Figure 5(20) Changes in Emphases [D]1 →[D]2

The re-engineering of the University's organisation, policies and practices led to significant changes for FM, particularly in relation to the level of its involvement in the University's management systems. Figure 5(20) indicates the extent of these changes by comparing the characteristic profiles of FM practice before and after the reengineering process. It can be seen that all aspects of FM practice were raised to higher levels of management involvement, mainly to a 'consolidated' Level Two arrangement overall.

Figure 5(21) indicates that the primary functions of FM had shifted to more administrative management, planning and programming. Its main responsibilities were largely changed to service administration, space planning and management, and service programming instead of building operations, service and maintenance. Its priorities were given to the issues of resource availability, facility operating cost performance, public and community support, and health and safety.

Summary Findings from Case D

The case included two sets of FM arrangements that were put in place to support the organisational requirements before and after re-engineering. The general findings from this case investigation can be summarised as follows:

- The changes to FM arrangements were a key component in the organisation's restructuring and re-engineering process as the University had recognised that FM could contribute to its image and ability to become a leading world-class university. To attain the goal of a leading university, the organisation needed to improve and upgrade its facility support for academic activities and to create a distinctive environment for learning and research activities. This need led to FM changes and improvements.
- The major organisational change provided an opportunity for FM rearrangement major integration and improvement. However it needed time and a transition period before the new goals of FM could be achieved.
- A much higher level of integration of FM support arrangements within the University's management systems resulted from the restructuring process as a direct consequence of the new governmental and organisational policy and the University's requirement for better work-support from facility resources and services. In addition, the higher integration of facility management and services led to increased concern for improved levels of strategic support.
- In this public sector organisation, the government's directions and policy were an overarching factor that had a direct influence on FM purpose, policy and level of management involvement, including service delivery arrangements and performance accountability. In turn, the University before the re-engineering had less freedom in arranging FM department and selecting service options due to the strict governmental directives and national standards, making FM arrangements less related to the specific needs and context of the organisation. The change of government's policy on university autonomy led to the changes to university's management and FM practice overall. After the re-engineering, FM practice was rearranged more towards the specific needs of the University.
- The increasing emphasis within organisational policy on facility resources after the re-engineering had practical impacts on the purpose and policy of FM practice. Increased emphasis on the facility environment and utilisation led to a change in FM focus from 'facility-focused' to 'work-support' and from service operations to coordinating management.

- The range of FM services was determined by the essential needs of facility operations and conditions, and building use requirements, but the extent of service provision was determined by the policy and resource capacity of the organisation.
- The emphasis on FM performance measurement was determined by the organisational policy and culture. The change of government's education policy and the increase of university autonomy raised the need for greater management accountability to the University. This led to the changes to performance measurement practice and culture with the establishment of a more formal performance measurement arrangement for FM services, as a part of the re-engineering process.
- The main issues concerning FM arrangements of this case included operational capabilities and reliability, operational compatibility, support affordability, local preferences and practices, organisational policy and support remit and organisational resource requirements.

5.5 [E] Case Investigation E:
Property Management for a Local Bank

The last of the five case studies examines the FM practices within a large local bank. This organisation was one of the leading banks in Thailand and had been established for more than sixty years. The organisational change, to which this case study relates, occurred in 1999 largely as a result of the recession in the Thai economy. At that time the bank had commercial branches in every city throughout the country. In 2002 the bank held some 25% of market share of the local banking market with total assets of approximately US$ 30.5 billion total assets.

Between 1997 and 1999, the bank became heavily affected by the regional economic recession and the Bank's business performance began to decline. Furthermore, business competition from overseas banks increased during this period due to deregulation by the Bank of Thailand that allowed overseas banks to operate more freely in the country. As a consequence, the bank was forced to implement a 'business transformation' initiative, restructuring its functions and operating processes in order to regain market position and local competitiveness. This transformation led to the downsizing and centralising of many business decisions such as corporate loan approvals, standardising its business practices and support operations. Staff was laid off and unprofitable business units were closed down, international standards and practices were introduced with the restructuring of all the organisation's internal business units. This case study examines the FM arrangements before and after the business transformation of the Bank.

5.5 [E]1 FM Arrangements before Transformation

Before 1999, the Bank's primary business had been consumer banking services for local people with its extensive branch network as a base for its expanding business. The physical facilities of the Bank also served to demonstrate the stability and creditability of the Bank's image to its customers. In the past, the Bank had considered that it was necessary to own all assets, particularly the physical assets, and to provide all associated services and skills in-house. There were two main reasons for this: the physical assets provided financial security; and the number of suitable external service suppliers was very limited.

For many years, the bank had had a Central Services Division (CSD) that was responsible for all facility management functions and activities. Facility management had

never been a major concern for the bank since its operating costs were very low in comparison with other elements within the overall budget of the Bank. The head of Property Management described the concept of facility development and management of the organisation in the past:

> *"The past concept of facility development and management was based on check and balance basis where one department was responsible for building procurement and the other were responsible for operations afterwards. The facilities related functions were divided into two parts: a pre-construction part and a post-construction part. The pre-construction team was separated from the post-construction team. The building design and construction department handled construction projects. After the project was completed, central services would take over operation and maintenance."*

The Central Service Division consisted of two departments: a Design and Office Assets Department that was responsible for building design, construction management and office services; and a Central Services Department that was responsible for facility operations and maintenance in the corporate head-offices. Planning functions were not part of the CSD's remit, these being allocated within the Office of the President. The Head of Facility Management Information System (FMIS) section described the importance of FM function before the business transformation:

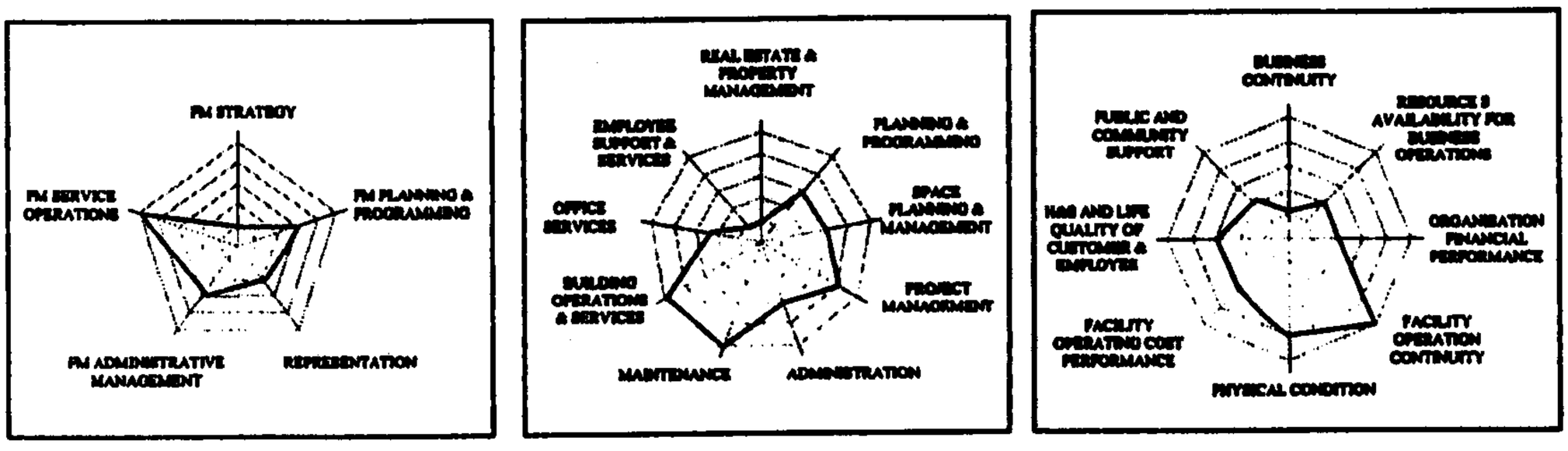
> *"In the past, the bank did not care much about facility issues. Business developments and projects would be initiated from a marketing viewpoint. Even physical developments were ruled by marketing strategy and initiatives. Some times, it made project development difficult to implement because the projects might not be possible to develop physically. The central service department and design and furniture department did not participate in the business planning."*

Overall, the FM functions had a fragmented structure, with no integration between the responsibilities for facility planning and facility operations. The CSD had two primary purposes: first to ensure that the corporate head-office facilities operated smoothly and efficiently; and second to deliver building projects on time, within budget and to quality standards. The division was responsible for all facility operations and services of the corporate head-offices and the delivery of new branch facilities, including their design, construction management and coordination. The FM services included the planning of retail branch office space, mechanical and electrical operations, maintenance, cleaning, and the security arrangements for the corporate head-offices. Most services were delivered by in-house staff on a service-by-service basis. At this stage, they used the same general business performance

measures to evaluate FM tasks concerning operational outcomes such as job and project completion and budget spend.

The division had an operational orientation and culture, focusing on the physical conditions, appearance and operations of buildings and facilities and was preoccupied with operational performance. The management of facilities services was regarded as a supplementary function and handled at an operational rather than strategic level with little connection to the business management process generally. Most of the time, communication with the business managers was a 'one-way' process conducted at a 'medium-low' management level. Overall the Division had limited decision-making authority and was concerned mainly with routine operational matters.

Figure 5(22) illustrates the characteristics of FM practice prior to the introduction of the Bank's transformation process. It indicates that FM functions were predominantly related to service operations but with responsibilities for facility design and planning. FM responsibilities were directed to building operations and services, maintenance, construction project planning and management for the branch offices, with facility operations continuity and facility conditions being primary priorities.



FM Functions FM Responsibilities FM Priorities

Figure 5(21) FM Emphases before Transformation [E]1

5.5 [E]2 FM Arrangements after Transformation

The changes to FM practice were a part of the 'Business Transformation' programme. The improvement of FM efficiency and effectiveness became key issues. In this case, the organisation became more aware of the importance of facility resources, as the Head of property management pointed out:

> *"...The Bank has now realised that facilities that are critical to the business operations should be well managed and maintained in an effective condition..."*

In turn, the view of FM goals changed to be a 'business-driven' function as the Head emphasised:

> ***"...if we want to serve/support the business of the bank, the method and practice of (property) management should be driven along the business. We have to think how to save and maximise the costs and investment." "...I think the focus or main issues of FM should be determined by the roles and contributions of facilities to the business operations. On the one hand, FM for the Bank is concerned with customer satisfaction, lag time, cost saving. On the other hand, it should be concerned with property value, return on the asset, efficiency ratio of improvement, and return on operating cost, so on."***

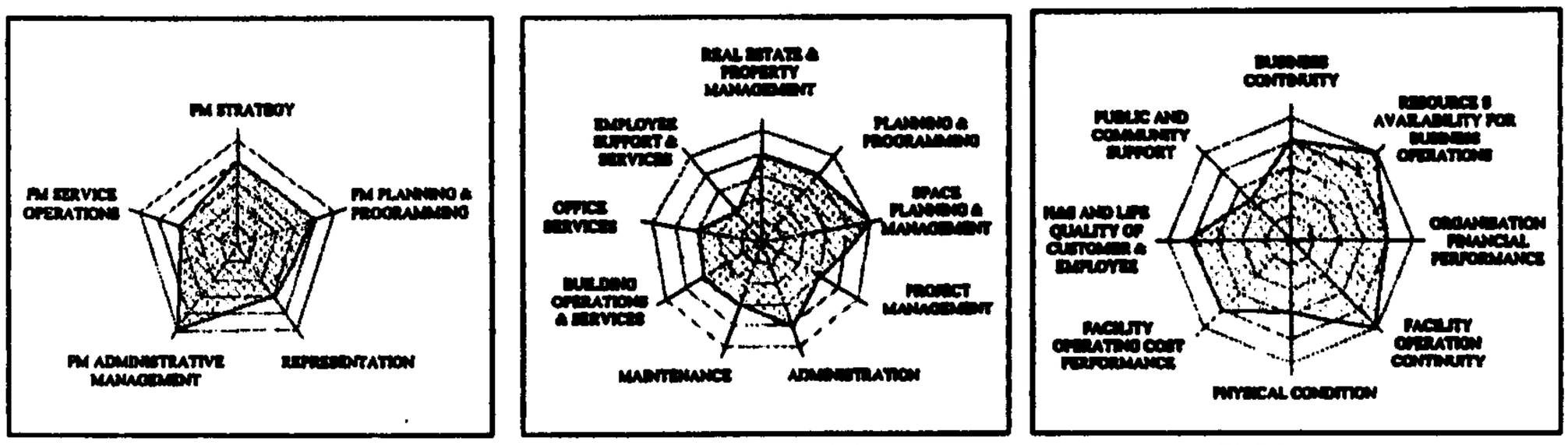
As part of the business transformation process the structure of the original FM division was reorganised to form a new 'Property Management' Department with two principal sets of FM functions. On the one hand it consolidated all functions relating to facility planning and management within a comprehensive Infrastructure Planning remit, i.e. property management, property projects and property operations. On the other hand the FM division retained responsibilities for all of the operational management aspects of the FM support function, i.e. FM technology, administration, office procurements and logistics. The structure of FM became more centralised with an increasing degree of integration between its facility planning and operational management functions. The concept of works and services also changed with the adoption of a work support-oriented policy and culture. The restructured department was determined to provide sound and supportive facilities and services for the operations of the Bank, supporting the core business management group with strategic solutions for facility and workplace management, a strategy for managing and maintaining the value of property assets with increased utilisation and enhanced operational performance of the existing facilities. In the future it intended to become more involved with strategic issues of portfolio management and business infrastructure and services support.

Overall the coordinating functions of FM were upgraded to strategic and tactical levels of management decision. Now positioned at a middle management level, the department regularly participated in senior business management meetings with a clear two-way communication structure to business management personnel. The restructured department had authority for facility planning issues proposing facility action plans and strategy with responsibilities for the tendering arrangements for all service contracts. However in some areas its responsibility remained relatively selective, covering the space

management of corporate head-office and branch office space and facility operations and services for the 'corporate' head-offices.

Naturally, the scope of services was enlarged by the FM reorganisation and the department had to consider the feasibility of outsourcing as much as possible of this enlarged portfolio of support services, with groupings of service bundles to ensure efficient tendering and improved service delivery. The department started to use facility service indicators to assess its own performance and to improve the focus on key FM issues. It was developing a set of indicators that were business-related such as cost performance indicators and user satisfaction metrics. At the time that the case study was conducted, it was reported that the new arrangements had enhanced the planning and management capabilities of the department, enabling it to better serve and support the Bank's business strategies and operations. The transformation and the reorganisation of FM functions were seen to be improving the performance, efficiency and competitiveness generally.

Figure 5(23) summarises the general characteristics of FM practice after the Bank's transformation process. It indicates that an extended role into long-term planning and FM strategy with high responsibilities to property portfolio management, programming, space planning and facility services administration. FM priorities are given to the issues of business and operations continuity, financial performance, operating costs and customer support.



FM Functions | FM Responsibilities | FM Priorities

Figure 5(22) FM Emphases after Transformation [E]2

5.5 [E]3 FM Changes in Case E

Case E investigated the changes to FM arrangements that occurred during the mature stage of the Bank's organisational development, but where the national economic situation, together with the deregulation of banking activity had generated a need for significant transformation of business practices. The Bank transformed most of its business and non-business units to improve its competitiveness, including the facility management functions.

The organisational changes included downsizing the branch service operations, organisational restructuring, the redesigning of procedures and working processes, the adoption of international standards of banking practice, all with more reliance on information technology in its business operations and services. The Bank looked to reduce its fixed assets by the selective disposal of freehold property, taking advantage of the surplus of leasehold property in the market. It planned to expand its business through a large number of micro branches with short-term lease to ensure business flexibility.

The consolidation of facility management-related functions was an important part of the Bank's process for business transformation, reconsidering the operational functions of FM to improve working performance and to ensure a direct contribution to business support and competitiveness. In this respect, the head of the Design and Office Asset Department initiated the integration of all functions related to facility planning, programming, management and services within a unified department. All of the changes were undertaken to support the business operations in the new business strategy, and improve the capacities of facility operations, services and management. This led to a fundamental change in the orientation, role and practices of FM within the Bank with the expectation that consolidation of FM related operations would reduce the need for redundancies, increase the pace of decision making and implementation, with significant business advantage overall. In addition, all of the property functions that used to locate within the Office of President were consolidated to the FM department. This led to the increase of strategic responsibilities of the FM in relation to the corporate property portfolio management. These changes to FM arrangements were essential to:

- Support the new business management;
- Overcome inconsistencies between the new business requirements and strategy and the previous organisational resource management policy;
- Improve FM performance and capabilities generally.

As the head of FMIS section said:

> *"By the restructuring, this department should be able to focus more on planning, forecasting, analysis, strategy and management, rather than providing services as in the past. The main issue of the practice will be centred on the performance of facility utilisation and efficiency and the performance on investment return in relation to income generation of the business unit. It will focus more on property value, cost-effectiveness and efficiency. In doing this, the department is trying to reduce its role*

in manual and operational tasks, shifting orientation from operations to management and strategy. However the E&M maintenance is still a main task, but not the first priority. It will be concerned with organising, setting standard, setting direction, and controlling ... The department and the function will be more involved with the business operation through the performance of property and facilities in relation to business performance."

"...the restructure of our department is a change of paradigm in providing and managing facilities services for the Bank. A more offensive/active approach will be undertaken aiming to provide the bank and its business units with property solution and initiative..."

The implementation of these changes included:

- **The consolidation of property and facility management functions, facility services and operations;**
- **The restructuring of the FM organisation within the Bank;**
- **Using information technology system to support facility management and establishing a functional unit of FM Information System;**
- **More reliance on outsourcing arrangements for building management, facility operations and service delivery functions;**
- **Retaining and retraining the existing operational staff and recruiting additional staff to undertake FM strategic planning and FM Information System.**

These changes set out to improve FM capabilities in support of the new organisational policy, to enhance the planning and management skill base, and to improve facility resource utilisation, cost-efficiency and service performance. The changes were implemented reactively in response to the business transformation process, more than a year after the initiation of the transformation. Overall the degree of change was moderate in relation to both operational capability and strategic support and can be considered as a 'practice alteration'. Details of the main direction of change are summarised in Table 5(8).

Table 5(8) Changes to FM ARRANGEMENTS [E]1→ [E]2

FM CHARACTERISTICS	CHANGE [E]1 → [E]2
Purpose & Policy	- Redirected to a business-support policy, with focus on property and workplace management and strategic management tasks, in addition to service delivery.
Key Issues & Priorities	- Refocused on business support performance, including business resource availability, financial performance, and H&S of employees and customers.
Scope of responsibilities	- Diversified to cover all facility and property services, with extensive responsibility for facility resources and a consolidated and extended range of services.
Scope of services	- Modified by integrating and regrouping the extensive range of facility services.
Primary Role	- Redirected to a comprehensive property and facility management remit overall.
Level of Management involvement	- Elevated to a middle management level with participation in selective core business management meetings.
Level of Decision making	- Raised to a higher level of decision-making authority with extended operating budgets, the participation in strategic management decisions.
FM Structure	- Reorganised to cover the duel functions of Infrastructure, Planning and Operational Support Management.
Service Delivery	- Adjusted with greater emphasis on outsourcing arrangements.
Performance measurement	- Extended to include specific FM performance metrics.

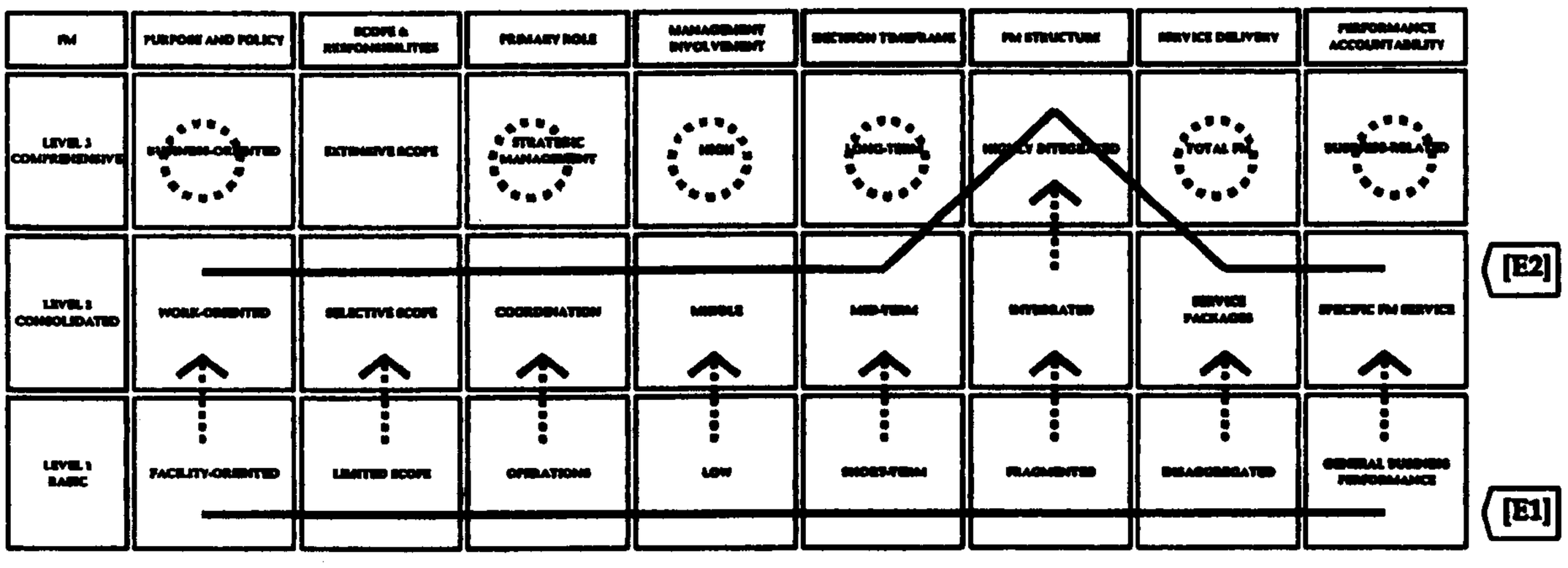
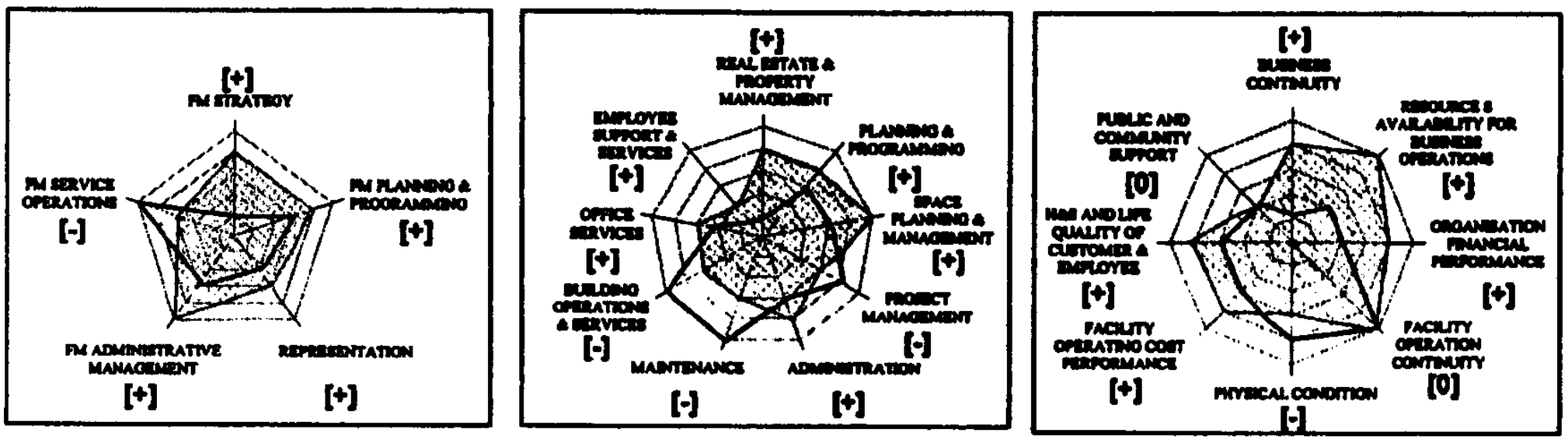


Figure 5(23) Changes to FM Profile [E1]→[E2]



FM Functions | FM Responsibilities | FM Priorities

Figure 5(24) Changes in Emphases [E1]→ [E2]

The changes to the FM profile, pre and post business transformation, are illustrated in Figure 5(24). Overall, FM arrangements moved to a higher consolidated Level Two position as consequence of the change. It should be noted that in this Case Study the change process was ongoing and Figure 5(24) represents an interim arrangement position. The organisation planned to implement a further set of changes in the near future probably to include the spin-off of facility-property management functions into an independent and self sufficient business entity, reinforcing and further developing the concept of a 'business-orientation'. It was intended that this new entity would focus on the strategic planning and management of the facility portfolio to support the Bank with full business accountability for its viability, finance and development. The dotted circles in Figure 5(24) indicate the probable level of the FM profile at this next stage in the planned process of change.

A concluding comparison of the characteristics of FM practices across the two periods studied is shown in Figure 5(25). It can be seen that most FM functions expanded [+] to cover more areas of FM administration, strategy, planning and programming, and organisational representation over the case study period. In contrast the involvement in service operations tended to decrease [-] with FM responsibilities moving away from emphasis on routine operational issues such as maintenance, building operations and services to strategic planning and strategic management issues. FM priorities tended to extend to cover core business-related issues such as business continuity, the availability of business resources, workspace and office systems and financial performance.

Summary Findings from Case E

This case investigation included two sets of FM arrangements, before and after the business transformation. The general findings can be summarised as follows:

- The restructuring of FM arrangements was initiated to support the organisation's business management restructuring. The initial set of 'fragmented' and 'facility-focused' FM arrangements were replaced by a more 'integrated' approach with the new FM arrangements focusing on 'work-support' to enhance the contribution and utilisation of facility resources. Integration of FM arrangements was seen as a key issue in changing organisational policy, culture and management approach.
- As FM was mainly responsible for the support services of facility resources and workplace, the range of services was determined by the needs of working and facility operations. Without radical change to working and facility operations, the range of services remained relatively the same throughout the process of change.
- The creditability of FM department and the condition of internal politics affected the level of FM function integration and the delegation of management and decision authorisations. The close and strong personal relationship between the organisation's President and the Head of FM helped FM to gain access to business management meetings and to become part of the business decision making process.
- The coverage of FM functions was determined by organisational policy with 'strategic and innovative' functions being added to the existing 'operational functions' in order to improve the performance of FM department in handling facility utilisation and property management performance overall.
- The focus and remit of FM affected the timeframes of concern and decision. The extensive scope of functions from facility operations to property planning required FM to be concerned with both strategic and operational decisions, both over the medium and longer term.
- The service delivery arrangements were determined by organisational policy, the availability of in-house resources and capabilities, and the availability of external service suppliers. With the new policy of concentrating on the core business requirements, the outsourcing approach for operational service delivery became a more feasible option than the in-house delivery practices of the past.
- The extent of FM performance measurement was related to the degree of FM involvement and to the level of accountability to the core business operations. The 'general' performance measurements of the past were replaced by more 'specific' performance metrics once FM became recognised as part of the business management process.
- The main issues concerning FM arrangements of this case included operational capabilities and reliability, operational compatibility, local preferences and practices and organisational resource requirements.

Summary

In this chapter, the information gained from the five case investigations has been documented and summarised. It was not intended that the selected case studies should represent 'best' FM practices within any given organisation, but rather that they be examined to gain an understanding how FM practices were arranged in relation to their context generally. The case studies investigated FM arrangement profiles and their change characteristics, they identified and analysed key arrangement issues and the relevant areas of decision, examining the factors that induced changes. The relationships between the eleven circumstances of FM positioning and the internal and external conditions and the relationships between FM changes and contextual changes were analysed to identify the specific arrangement factors, change characteristics and key areas of decision. The investigations and analyses found that FM arrangements were determined by many factors. Case A showed the development of FM arrangements through three different periods of organisational development. Cases B, D and E indicated the relationship between organisational restructuring and changes to FM arrangements, while Case C illustrated the impacts of business expansion on FM arrangement changes. The case studies showed that changes were undertaken in order to improve or adjust the operational and strategic capabilities of FM to support or accommodate the new demands of organisations. Each of the five cases showed different degrees of change, depending on the gap between the existing capabilities of FM provisions and the required capabilities for organisational support. In the following chapter, the results of the investigations across the five case studies will be examined and compared to identify their similarities and differences.

Chapter 6

Cross-case Comparisons

This chapter reports on the second part of the analysis of the findings from the five case investigations. It describes the results of a cross-case comparison to identify the main factors that influenced the FM positioning and repositioning process and the key areas of decision that were involved. Both common and contradictory patterns of relationship are examined in order to scrutinise the initial propositions of this thesis as set out in Chapter One. The structure of this chapter is illustrated in Figure 6(1) below.

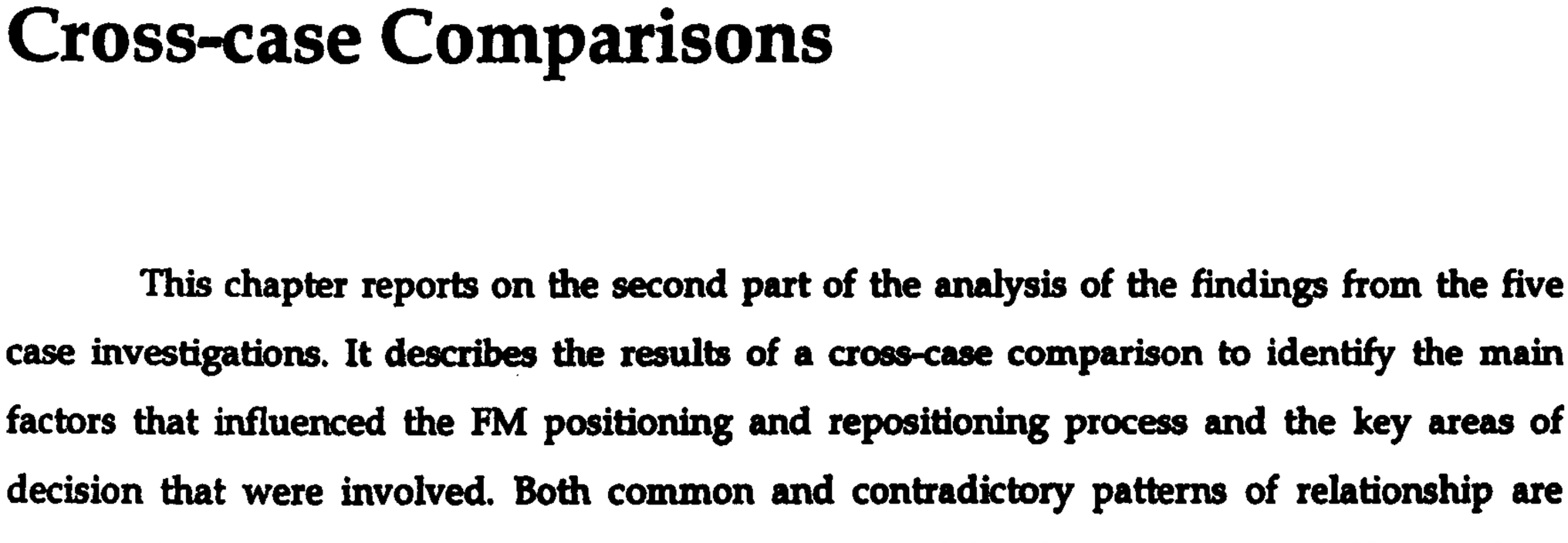


Figure 6(1) Framework for Cross-case Analysis

This chapter has four main sections. First, it considers positioning issues and FM arrangements across the five case studies. It examines the patterns of relationship between FM and its context in order to identify any factors that appear to influence the positioning decision process. This section looks to uncover similarities and differences between the findings of the individual case studies.

The second section examines the patterns of change of the FM positioning process over time. It looks to identify the generic circumstances for change, any triggers of change and the main reasons for changes to FM support arrangements. The third section of the chapter seeks to identify and characterise the key areas of decision in the positioning process, the main alignments between organisational needs and facility management provision, and the changing balance of emphasis between operational and strategic concerns.

The forth and final section considers how the specific findings from the five case investigations might inform the development of generic positioning concepts for FM. It considers the opportunities and potential limitations to the development and application of generic decision frameworks and supporting decision tools to assist the FM positioning and repositioning process in the future.

6.1 Positioning Issues and Arrangement

Table 6(1) shows the general pattern of relationship between organisational characteristics and FM arrangements across the eleven circumstances that were investigated in the five case studies. The rows in the table represent the organisational and contextual attributes that were identified in the individual case study analyses, while the columns cover the eight FM attributes that were selected in Chapter Three and used in the case investigations as described in Chapter Five. The strengths of linkage between pairs of each organisational attributes and contextual attributes and each of the FM attributes are indicated by the number of circumstances in which they were observed across the five case investigations overall. The detailed reference material on which this table is based is included in Appendix E, page 331.

Table 6(1) General Patterns of Relationships

	FM ARRANGEMENTS							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management Involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
ORGANISATIONAL ATTRIBUTES								
Development Stage	☐	☐	◪	◪	☐	◪		☐
Organisational Policy	■	■	■	■	■	■	■	■
Organisational Structure		◪		■	■	☐		
Organisational Culture		☐					☐	■
Business Operational Strategy	■	◪	■					
Stakeholder Interest	☐	☐						
CONTEXTUAL ATTRIBUTES								
Economic Conditions	☐							
Legal	◪							
Cultural	■							■
Market							■	

■ Strong Linkage: indications of a strong relationship overall with evidence of direct linkage in 8 or more of the 11 circumstances

◪ Moderate Linkage: indications of a moderate relationship overall with evidence of direct linkage in 4 to 7 of the 11 circumstances

☐ Modest Linkage: indications of a modest relationship overall with evidence of direct linkage in 1 to 3 of the 11 circumstances

Table 6(1) indicates that the strongest set of linkages were those between organisational policy and all of the eight attributes of FM arrangements. This strong relationship was evidenced in every case study. For example, in Case D, a major change in the organisation's policy, redirecting its priorities to aim to become an autonomous, research-led institution, had a direct and major impact on all aspects of the FM function and role, challenging it to improve facilities and environment to support research as well as teaching activities, to move from a routine operational focus to work-support position, with more extensive scope and responsibility at higher level of management within a totally reformed functional structure. In a second example in Case B, a new organisational policy of service charge-back and accountability for facility resource allocations, with the organisational

requirement for operating facilities as a separate business unit led to the restructuring of FM arrangements as a whole, again across all of the eight attributes.

A second area of strong linkage was between organisational structure and the level of management involvement coupled with the timeframe of FM concerns (Row Three in Table 6 (1)). Again, this strong linkage was found in every case study with an additional degree of moderate linkage to FM scope and responsibility. In six out of eleven circumstances ([B]1, [B] 2, [D]1, [D]2, [E]1, [E]2), the characteristics of the organisation's structure had directly affected the ways in which FM functions had been consolidated within a departmental structure. In contrast, organisational structure appeared to have no discernable direct relationship to the purpose, policy and role of FM and to delivery and performance issues. This was an unexpected outcome.

A further area of strong linkage was indicated between business operation strategy and FM purpose, policy and role, associated with moderate linkage with the scope and responsibilities of FM (Row Five in Table 6(1)). Three cases (case A, B and C) showed that their business operational strategies at each time period had a strong relationship to FM policy and role that was adopted. A comparison of those cases that had different issues of business and work operations, confirmed the expectation that this would affect the scope of FM activities. In two circumstances ([A]1, [C]1) with small or limited business operational capacity, the scope of FM also tended to be narrower compared to that during subsequent periods of full operation.

The stage of organisational development appeared to be a common area of moderate to modest linkage with all of FM attributes, except the service delivery arrangements (Row One in Table 6(1)). In five of the arrangements ([A]1, [A]2, [A]3, [C]1, [C]2), there were significant differences in FM support positions between the stages of organisational development. During periods of high growth and/or organisational change ([A]2, [C]2), there were indications that FM purposes, policy role, scope, management involvement, and decision timeframes tended to emphasise strategic priorities over the medium term. In contrast, during stable periods the priorities of FM tended to be more routinely focused on operations and service continuity. In the more stable periods, FM concentrated on a coordinating role within a short to mid-term timeframe, at a middle management level of involvement (Case B, C, D and E).

Very little direct linkage was indicated between some organisational and FM attributes. Organisational culture did not appear to be related to the set of FM attributes

overall, with the exception of performance measurement. Stakeholder interests appeared to have only slight linkage to FM arrangements with few circumstances where stakeholder issues were taken into account explicitly when clarifying FM purpose, policy and scope ([B]1, [B]2, [D]2). However stakeholder interests in cases A and C, were included as an integral part of organisational policy, prior to considerations of FM positioning. The four contextual attributes, i.e. economic, legal, cultural and local market, appeared to have linkage to few of the FM attributes generally. In most cases organisations were concerned with the economic, legal and cultural issues at a broad policy level before FM purpose and policy was determined, but here a strong to moderate influence was apparent. Cultural issues had a relatively strong linkage to the performance measurement regime and all cases confirmed that local culture and preferences were taken into account when organisations set up their service delivery arrangements. This was most apparent in the case of multinational-organisations (Cases A and C) where their corporate performance standards and measurements needed to be aligned with specific local attitudes and preferences.

Table 6(1) shows a strong linkage between FM skill and supplier market and service delivery arrangements. The case investigations were all within Thailand, and, as had been anticipated, showed that the capacity of the market was a major factor in determining the approach for service delivery arrangements. All of the cases indicated that the local FM suppliers market influenced the selection and arrangement of the service delivery approach. Where and when the FM industry was undeveloped with a shortage of competent facilities service suppliers, organisations tended to undertake and manage the operational support services in-house ([B]1, [D]1, [E]1). At later stages as the FM industry developed, organisations had a wider range of service delivery options, which commonly led to the adoption of an outsourcing approach. In cases B, D and E, both individual services and service package outsourcing was undertaken to replace the earlier in-house service delivery and fragmented service outsourcing, as the suppliers become more available and competent. Generally there was clear evidence that the contextual attributes were linked with the organisational attributes directly, but they appeared to have had surprising little influence on FM arrangements overall with the exception of the three FM aspects mentioned above. It may be argued therefore, that the contextual attributes appear to have influenced FM arrangements indirectly through the organisational attributes in most circumstances.

The examination of the general pattern of relationships across the five case studies tends to support several of the viewpoints outlined in the literature review. The findings reinforce the notion that a 'best practice' or 'standard' solution for FM arrangements is unlikely (Nutt, 2002a; Barrett, 2000). rather, those organisations tended to select their FM

arrangements to suit their specific needs and unique circumstances at a particular time, informed by 'relevant' practice experience. Overall, organisational policy appeared to be a key factor influencing the choice of FM arrangements. The results from the five case studies suggest that the clarification and detailed examination of an organisation's mission and policy documents, and any statements concerning its intentions for policy change might be the most singly important source of information from which to consider FM positioning and repositioning directions for the future. This finding is consistent with the opinions of those in FM practice and the academic world, that it is essential to align FM arrangements to support organisational policy (Atkin and Brooks, 2000; Grimshaw, 1999; Barrett, 2000). FM scope and responsibility was the single most important attribute relating to the set of organisational attributes as a whole. When defining FM purpose, policy, scope, role and responsibility, it is necessary to understand and reflect organisational policy and its business operational strategy. The selection of a performance measurement regime tended to be related to both organisational policy and organisational and contextual culture, supporting the viewpoint that the cultural differences might require different degrees and types of performance measurement (Nutt, 2002a). Based on the case study findings, it may be argued further that service delivery arrangements cannot be determined solely by organisational policy, rather the capacity of the FM skill market and its constraints will have a strong influence which may be particularly crucial for FM practices in emerging markets such as Thailand. Furthermore, the cultural context might have significant impact on FM at the operational issues such as service agreements, performance indicators and customer relationship, as suggested by a number of authors (Wong, 2000; Gillard and Yiqun, 1999; Lomas, 1999). However the linkage between the cultural context and FM arrangements was not as strong as had been anticipated, nor was it as strong as some authors have suggested (Wong, 2000).

6.2 FM Changes

Table 6(2) shows the patterns of relationships between changes to FM arrangements and changes to organisational and contextual attributes across the six circumstances of change that were investigated in case studies. In Table 6(2), the rows represent changes to organisational and contextual attributes while the columns represent changes to the main eight FM attributes. it should be remembered that significant contextual changes did not occur within the time frame of the case investigations. The relationships between the changes to FM arrangements and the organisational changes are indicated in Table 6(2) based on the number of circumstances observed from the case investigations. The detailed attributes are the same as these used in the previous section and information on which this is based is included in Appendix E, page 331.

Table 6(2) The Patterns of Change

	FM ARRANGEMENTS CHANGE							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management Involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
ORGANISATIONAL ATTRIBUTE CHANGES								
Development Stage	◪	□	□	□	◪	◪		◪
Organisational Policy	■	◪	◪	◪	◪	■	□	◪
Organisational Structure		◪	□	◪	◪	◪		
Organisational Culture	□	□	□				□	□
Business Operational Strategy	■	◪	◪			□		
Stakeholder Interest	□	◪						□
CONTEXTUAL ATTRIBUTE CHANGE								
Economic Conditions	◪							
Legal	◪							
Cultural								
Market							◪	

■ Strong Linkage: indications of a strong relationship overall with evidence of direct linkage in 5 or more of the 6 circumstances of change

◪ Moderate Linkage: indications of a moderate relationship overall with evidence of direct linkage in 2 to 4 of the 6 circumstances of change

□ Modest Linkage: indications of a modest relationship overall with evidence of direct linkage in 1 to 2 of the 6 circumstances of change

Table 6(2) shows a relatively dense pattern of linkage between changes across the eight FM attributes and organisational changes relating to development, policy and structure (Row One to Three in Table 6(2)). Particularly strong linkage was indicated between policy and structure changes to FM and policy changes within the organisations. Within half of the change circumstances ([B]1→ [B]2, [D]1→ [D]2, [E]1→ [E]2), the changes to FM purpose and policy, responsibility, management involvement, decision-making level, FM structure and performance accountability were all linked directly to changes in organisational policy. This suggests a major area of linkage between changes in organisational policy and the changes to FM generally with strong linkage to FM policy, reinforcing the importance of this relationship as described in the previous section. Here the case investigations found that while there was

generally clear information and documentation concerning organisational policy and its change, in contrast FM policy documentation was not common in the Thailand context. This finding emphasises the need for more formal and clearer FM policy statements and specifications for change.

It was found that the change of FM policy and rearrangements of FM scope and responsibility were linked to all but one of the organisational attributes (Column One and Two in Table 6(2)). In addition, a moderate linkage was indicated between the FM policy changes and changes in economic conditions and the regulatory context. In all cases FM policies were redirected to support changes in organisational policy and core business operations that had resulted from the national economic recession, except for case A, where the organisation's development stage was the dominant issue. Changes to the level of FM involvement in management decisions, FM structure and changes to decision timeframes showed mostly moderate levels of linkage to changes in organisational structure, policy and development, with the relationship between FM structure changes and organisational policy changes being strong in most cases (Columns Four, Five and Six in Table 6(2)). It was found that changes to the level of management involvement tended to be related to a change in organisational circumstance, i.e. between low-change and stable to high-change and restructuring, rather than the development stage itself. No discernable direct linkages between the changes to the level of management involvement and decision timeframes with the changes to other organisational and contextual attributes were found in any of the cases.

Changes to service delivery arrangements had only modest linkage with organisational policy and culture, but not to other organisational attributes. It had moderate linkage to the changes in the FM skill market, indicating the influence of the market on service delivery arrangements, as found in section 6.1. Three cases (case B, D and E) specifically indicated that their organisations had adjusted their service delivery arrangements due to the increased service options available in the market. Overall however, the case study results suggest that the selection of service delivery arrangements and changes to these arrangements are not as directly related to, or influenced by organisational and business characteristics as informed 'opinion' (Jones, 2000) and literature sources (Atkin and Brooks, 2000) tend to suggest. Rather it appears to be not as integrated as the other FM attributes and a relatively independent issue within organisational concerns.

Changes to performance measurement arrangements appeared to have a moderate level of linkage with both organisational policy change and organisational development changes (Column Eight in Table 6(2)). These linkages appeared to be of two kinds. In one kind

of change, performance measurement arrangements were changed because the operational capacity of the organisation had changed ([A]1→ [A]2, [A]2→ [A]3 and [C]1→[C]2). In the other kind of change, performance measurement arrangements changed in response to organisation policy change and in one circumstance also involved a major change of organisational culture and administrative attitude ([D]1→ [D]2). In case B, when FM became a subsidiary business unit, the performance arrangements had to change to reflect the income expectations of the major stakeholder – the corporation.

Overall organisational policy change was the most emphasised and common trigger that induced position changes to FM arrangements (Row Two in Table 6(2)). To a lesser degree, organisational structure and development changes also had moderate to modest linkage to the changes to all but one of the FM attributes (service delivery). As described in section 6.1, contextual change did not appear to influence changes to FM arrangements generally in any of the case studied. The economic conditions changed slowly after the recession which affected all the case organisations triggering some changes in business structure, operations and organisational management. In other respects, there were no sudden or significant changes to the cultural context during the study periods of the case investigations. So the general picture of little evidenced linkage was to be expected.

The above findings tend to give strong support to the general hypothesis of this thesis and the commonly held viewpoint that FM arrangements will need to be adjusted in the light of changing organisational circumstances (Nutt, 2002a). The findings concerning the changing levels of management involvement, decision timeframes and FM structure tended to support the theoretical proposition that FM arrangements need to give more emphasis to strategic issues when organisational change is turbulent, during period of rapid growth, mergers or restructuring, but with operational emphasis when organisations are in a relatively stable state with little change or steady growth (Nutt, 2004). The notion that FM should hold a strategic position within organisations at all times (Alexander, 1996; de Valence *et. al.*, 2003; Rollins, 1995) was not generally supported. There were few circumstances that showed FM undertaking a full strategic position within the organisation. Moreover, in these circumstances the strategic position of FM tended to be temporary (Case A). Rather the case study findings support the notion that the function and role of FM should place emphasise on the operational issues of facility and services support for most of the time, focusing on an organisation's 'operational strategy' but with contingency arrangements ready to support 'business strategy' as and when required during periods of rapid change (Nutt, 2004). This implies the need for early warning arrangements to be put in place to gain intelligence of major organisational and business changes so that FM repositioning can be considered. Finally, the case investigations

showed that in the majority of cases organisations tended to look ahead only to the foreseen short-term changes that were planned. The FM timeframe for change was correspondingly short term, not prepared for unexpected and long-term changes in the future.

6.3 Recurrent Areas of Decision

This third section seeks to identify and characterise the main areas of decision within the FM positioning and reposition process, that were common across the five case investigations, their eleven sets of FM arrangements and the six circumstances of change. Overall, six general recurrent areas of decision were apparent relating to:

- Current Support Arrangements and Capabilities
- Facility Resources and Organisational Requirements
- Support Services Needs
- The Purposes and Extent of change
- Facility Management Priorities
- The Implementation of Change

The cross-comparisons of current support arrangements across the eleven FM case circumstances, identified a number of common issues that were used to review the general suitability of FM support arrangements. Ten major issues concerning FM arrangements were recurrently mentioned. Six of these related to operational decision issues concerning:

- operational capabilities and reliability
- operational compatibility overall
- support service range and responsibilities
- service delivery capabilities
- support affordability
- local preferences and practices

Four of the recurrent issues related to more strategic aspects of support provision:

- organisational policy and support remit
- business operation strategy and support requirements
- longer-term support capabilities
- organisational resource requirements

Table 6(3) illustrates the extent to which each of these ten decision issues were identified within the set of case circumstances, together with priorities that were expressed.

Table 6(3) Common Decision Issues concerning FM Arrangements

CASE REFERENCE	OPERATIONAL ISSUES						STRATEGIC ISSUES			
	OPERATIONAL CAPABILITIES AND RELIABILITY	OPERATIONAL COMPATIBILITY OVERALL	SUPPORT SERVICE RANGE AND RESPONSIBILITIES	SERVICE DELIVERY CAPABILITIES	SUPPORT AFFORDABILITY	LOCAL PREFERENCES AND PRACTICES	ORGANISATIONAL POLICY AND SUPPORT REMIT	BUSINESS OPERATIONS STRATEGY AND SUPPORT REQUIREMENTS	LONGER-TERM SUPPORT CAPABILITIES	ORGANISATIONAL RESOURCE REQUIREMENTS
[A1]	■	□	■	□	■	□	□	□	■	◪
[A2]	■	□	■	■	□	◪	■	■	◪	■
[A3]	■	□	■	■	□	■	■	■	□	■
[B1]	■	■	■	■	□	■	■	◪	◪	■
[B2]	■	■	■	■	□	■	■	■	■	■
[C1]	■	□	■	■	□	◪	■	□	□	■
[C2]	■	■	■	■	□	■	■	■	□	■
[D1]	■	■	□	□	■	■	◪	□	□	■
[D2]	■	■	◪	◪	■	■	■	◪	■	■
[E1]	■	■	◪	◪	□	■	◪	□	□	■
[E2]	■	■	■	■	◪	■	◪	◪	◪	■

■ High Priority Concerns

◪ Secondardy Concerns

□ Low Priority Concerns

The density of entries in Table 6(3) indicates that the listed decision issues were commonly encountered across the eleven circumstances. Overall the table shows, however, that different organisations tended to give different priority to some of these issues depending on their specific requirements and circumstances. The pattern of priorities indicated in the table can be divided into three groups. The first group relates to decision issues that were given high priority in most circumstances; operational capabilities and reliability, organisational resource requirements, local preference and practice, and the range of support services. The one exception is the organisation that had adopted standard practices from the government ([D]1), here the issues of support service range and service delivery capabilities were given low priority.

The second group in Table 6(3) relates to decision issues that tended to be of secondary concern but warranted high to medium levels of priority in most circumstances, including; organisational policy and support remit, service delivery capabilities and

operational compatibility overall. It should be noted that operational compatibility was only a low priority concern in Case A since this was a recently established organisation.

The third group shows a mixed pattern of priority including; business operations and strategy support requirements, longer-term support capabilities and support affordability. These factors tend to reflect the unique sets of concerns of the particular organisation. The priority given to the issues of business operations strategy and support requirements and to longer-term support capabilities were particularly varied, dependent on the nature of organisation and the emphasis of its purpose and policy in overall. Across all but one of the decision issues shown in Table 6(3), a common question was faced - to what extent are existing support arrangements sufficient to meet the current and anticipated needs of the organisation? The exceptional issue was 'support affordability' which had low priority in most circumstances but with a high priority concern in the case of the public sector organisation (case D) and the 'entry' stage of organisation case (A). Overall, the issue of 'affordability' seemed to be considered as part of other decision issues rather than as an issue in its own right.

Three interrelated decision issues concerning operational capabilities, resource requirements and support services were given high priority generally. Organisational resource requirements and the availability of facility resources appeared to be a major decision issue in all circumstances. Key questions included:

- To what degree is the facility resource base sufficient, inadequate or excessive to meet current and anticipated needs of the organisation?
- Are the sets of current FM arrangements and skills capable of managing the complexity of the existing facility resource base and any planned future developments?
- Are additional human resources and skills needed? And if so, are they available in the local market?

At any particular time, an organisation needs to determine the balance between its demands and the supply of facility resources. The case studies showed that organisations required different capacities, types and distributions of facility resources in different circumstances (case A and C). The cases also indicated that the characteristics of facility resources, e.g. their complexity and capacity, affected the range of services that were needed and the level of FM resource skills that were required. The consideration of the range of support services that were needed was a high priority concern generally, but with considerable variation across the eleven case circumstances. Some support services were

considered to be essential in some organisations, in some circumstances and at certain times but not by others, depending on the specific organisational stage of development, policy and business operational strategy. Overall, this decision issue tended to focus on a number of well known basic questions:

- What range of support services is required?
- Which of these are essential, which are discretionary?
- What other support services might be provided?
- What delivery arrangement options are available?
- How should individual services be grouped and organised?

Facility resource provisions tended to be reviewed periodically when organisational changes were occurring or planned. In contrast, support service provisions tended to be reconsidered more frequently. Decisions here were relatively independent of organisational changes in many cases, often undertaken in response to changed market conditions. The need to support new or modified FM purposes and objectives was the singly most common purpose of FM change generally found in most of the case circumstances. The issue of how to manage new facility acquisitions and further developments was only found in two of the circumstances, where organisations expanded their facility resource base to support more intensive business operations. A basic distinction can be made between those changes that are initiated by the FM department and those that are a consequence of changes that are outside of its influence or jurisdiction.

Table 6(4) Recurrent Issues for FM Change

PRIMARY PURPOSES FOR FM CHANGES	CASE REFERENCE
To support new Organisational Policy and Structure, and Stage of Organisational Development	[B]1→[B]2 [C]1→[C]2 [D]1→[D]2
To support new Business Strategy and Work Operations	[B]1→[B]2 [C]1→[C]2 [D]1→[D]2
To manage new Facility Acquisitions and Development	[A]1→[A]2 [C]1→[C]2
To support modified FM Purposes and Objectives	[A]1→[A]2 [A]2→[A]3 [B]1→[B]2 [D]1→[D]2 [E]1→[E]2
To adjust and support new or modified FM Operations	[A]1→[A]2 [C]1→[C]2
To achieve Operational Improvements generally	[A]2→[A]3 [D]1→[D]2 [E]1→[E]2

All of the individual purposes of change shown in Table 6(4), and together with their combinations give rise to a shared set of decision issues concerning the need for change, the focus of change, and the scale of changes to be undertaken. Key questions include:

- How can a FM department become aware of changes that might impact on its remit, functions and operations? / When will FM need to be changed?
- What early warning arrangements might be put in place to alert the FM department of changes that are outside of its influence or control?
- What set of primary and secondary changes to FM arrangements should be considered? What needs to be changed?
- If changes are needed, then what types and degrees of change should be considered?
- Does the organisation of FM arrangements need to be restructured or reformed fundamentally, or adjusted and modified?
- What time horizons of consideration and concern should be adopted?
- What scale of decision will this involve?
- How should the process of change be undertaken?
- How can the required changes be implemented?

The case study investigations identified six scales of FM change decision covering a range of change situations as summarised in Table 6(5). Some changes involved a radical repositioning of FM arrangements ([A]1 → [A]2), others related to relatively minor adjustments and modifications to°FM practices ([E]1 → [E]2). Major changes to FM arrangements were related to major degrees of organisational change. The scale of FM changes tended to be related to the size of the gap between the existing supply and the projected demand for FM support capabilities.

Table 6(5) Scale of Positioning Decisions

SCALE OF CHANGE DECISION	CHANGE REFERENCE	DEGREE OF FM CHANGE		DEGREE OF ORG. CHANGE	DEGREE OF FACILITY CHANGE
		Operational Support	Strategic Support		
RADICAL REPOSITIONING	[A1]→[A2]	Major capability improvement	Major capability improvement	MAJOR	MAJOR
PRACTICE TRANSFORMATION	[C1]→[C2]	Major capability expansion	Retain strategic capability	MAJOR	MAJOR
STRUCTURAL REPOSITIONING	[D1]→[D2]	Moderate capability modification	Major capability rearrangement	MODERATE	MODERATE
STRUCTURAL TRANSFORMATION	[B1]→[B2]	Minor capability adjustment	Major capability redirection	MAJOR	MINOR
PRACTICE MODIFICATION	[E1]→[E2]	Moderate capability modification	Moderate capability modification	MODERATE	MINOR
POSITIONING ADJUSTMENT	[A2]→[A3]	Minor capability adjustment	Minor capability adjustment	MINOR	MINOR

Furthermore, decisions to undertake major changes usually included a significant change to the balance between operational support and strategic capabilities. The case investigation findings were consistent in identifying a pattern of facility management priorities concerning operational and strategic supports where:

- A High level of operational support capability tended to be required once facilities and services were in full operation.
- A High degree of strategic support was required when organisations were in periods of rapid change or in situations with high levels of uncertainty and when facility resources and FM contributions formed a central part of the organisation's change process.
- Medium levels of operational support were required when organisations were in the process of developing facilities that were not yet in full operation.
- A Medium degree of strategic support tended to be required when organisations were in stable periods with low to medium levels of change.
- Low operational support requirements were associated with small-scale facility and services that were not critical to the core operations, partial FM operations, or when facility operations and services were the responsibility of the landlord.
- Low strategic support requirements were associated with stable period with little expected change in organisational requirements.

Figure 6(2) illustrates the levels of operational and strategic support capabilities for the eleven case circumstances. The vertical axis represents the FM operational support capabilities, high, medium and low, while the horizontal axis indicates the degree of strategic support capability, again high, medium or low. Case circumstance [B]2 had the highest level of both operational and strategic FM capabilities when FM arrangements became a core concern within a new business structure. At the other extreme, case circumstances [A]1 and [D]1 had low levels of capability from operational and strategic perspectives, when FM positions were at an early formative stage [A]1 and disparate undeveloped [D]1. In a similar way, Figure 6(3) indicates the degree of FM change, in relation to strategic and operational support capabilities, for the six case study change situations. These changes ranged from a radical repositioning of FM capabilities ([A]1→ [A]2) when there were significant changes in every aspect of organisation, to a modest positioning adjustment ([A]2→ [A]3) when the organisation had slight shifts of its business operations to a stable stage. The key questions concerning FM management priorities included:

- What degree of change to operational support capabilities is required?
- What degree of change to strategic management inputs will probably be required?

- What balance of support is appropriate between operational and strategic considerations and capabilities overall?

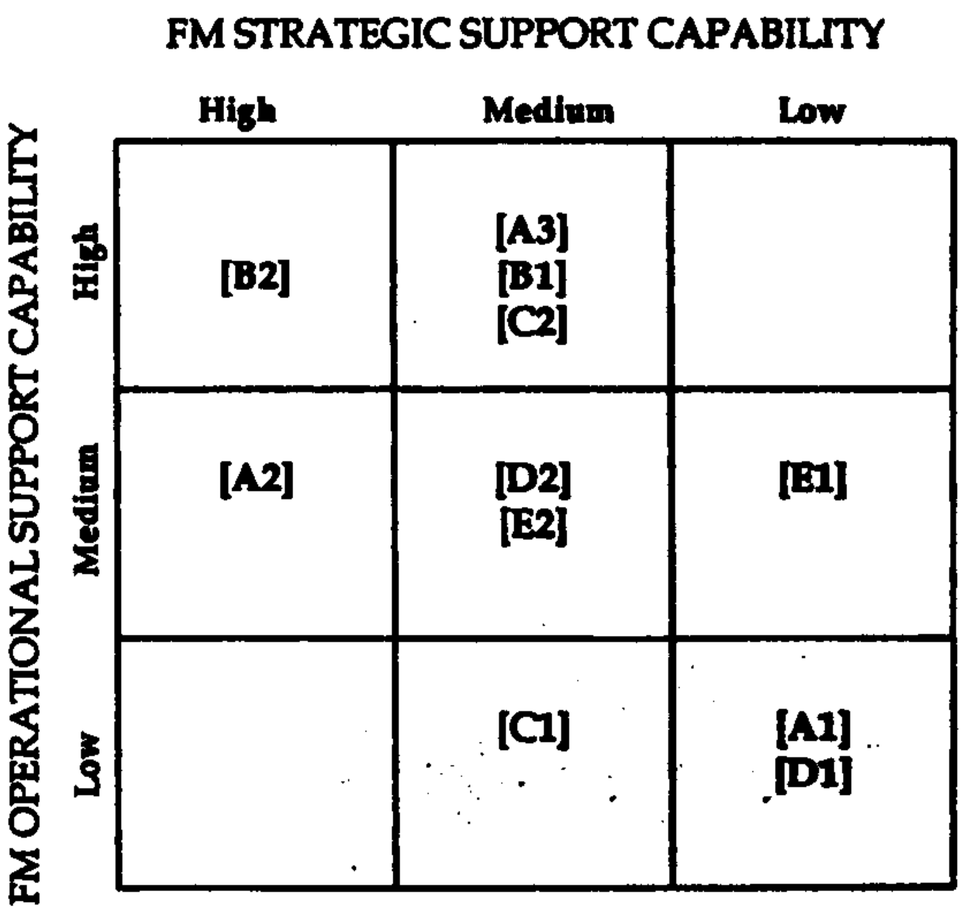


Figure 6(2) Operational and Strategic Capabilities

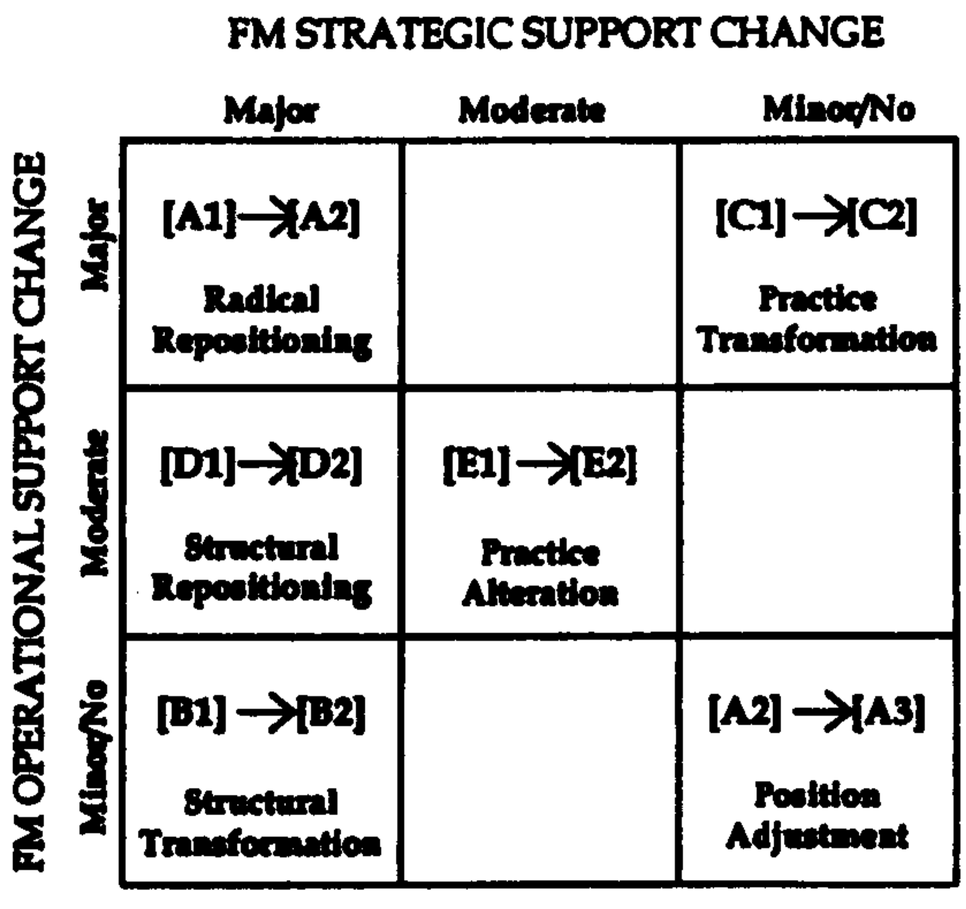


Figure 6(3) Types and Degrees of Change

Once organisations and/or their FM departments had realised that their support arrangements needed to change, they then had to decide how the process of change should be implemented. The comparison of FM changes across the six change circumstances showed a diverse pattern of implementation. Table 6(6) characterises these FM change processes.

Table 6(6) Change Processes and Time Frame

FM CHANGE MANAGEMENT	CASE REFERENCE	TIME FRAME	SPEED OF IMPLEMENTATION	CRITICALITY
PROACTIVE	[A1]➢[A2]	Planned change undertaken one year in advance to support major predicted organisational changes.	RAPID	VERY HIGH
PARALLEL	[D1]➢[D2]	Planned change two years in advance and undertaken as a part of a fundamental structural change to the organisation.	GRADUAL/ MODERATE	MEDIUM-LOW
RE-ACTIVE	[A2]➢[A3]	Unplanned adjustments undertaken after a review of FM departmental capacities and responsibilities.	SLOW	LOW
	[B1]➢[B2]	Planned change as a part of business restructuring, but implemented one year after the core business changes.	GRADUAL/ MODERATE	MEDIUM
	[C1]➢[C2]	Immediate and unplanned FM change in response to an unpredicted business opportunity arising.	RAPID	HIGH
	[E1]➢[E2]	FM Changes to adjust to business transformation one year later.	GRADUAL/ MODERATE	MEDIUM-LOW

The table shows a variety of time horizons of concern, speed of change and degrees of criticality in the change management arrangements, with indications that the process and speed of change was dependent on the time frame for the changes to be implemented and the criticality for organisational business operations, the higher the criticality, the quicker the pace of change. Overall, the FM change processes can be characterised within the following three groups:

- Proactive Change: changes that were planned, with implementation normally being initiated in advance of the organisational changes. This type of change and implementation can occur only when the organisation has been able to predict or plan a future change and has recognised the need for FM arrangements to be changed to meet the new set of needs that the change engenders.
- Parallel Change: incremental FM changes that were implemented alongside and in parallel with the organisational changes. This type of FM change was normally planned and implemented as an integral part of the organisational change management process.
- Reactive Change: changes normally undertaken after organisational change. This type of change tended to be unplanned and was normally in response to unexpected or unpredicted organisational changes or changes in market conditions. In one case ([B]1→[B]2), FM changes were planned in advance but implemented reactively due to the uncertainties about FM policy and the delay in the rationalisation of its internal human resources. Furthermore, in this case the changes to FM arrangements were not considered to be highly critical to the organisation's operations overall.

The cross-case comparisons showed that change was reactive in most of the cases indicating that reactive action is an important component of support management functions, despite the commonly expressed view that FM needs to become more reliant on proactive rather than reactive management (BIFM, 2003; Rollins, 1995). The key question for implementation was:

- What type of change management approach should be adopted and with what balance of emphasis between proactive, parallel and reactive measures when implementing a particular change initiative?

This section has identified some of the recurrent issues and areas of decision within the FM positioning and repositioning process. Although the number of case circumstances was relatively small, the investigation proved to be useful for understanding the dynamics of FM arrangements over time. It also raised a number of basic questions that need to be

resolved. These questions provide inputs to the next chapter, where a positioning framework and associated decision tools are considered and developed further.

6.4 Generic Positioning Concepts

The overriding purpose of the case investigations was to gain a better understanding of the FM positioning processes through which an appropriate set of FM support arrangements can be selected to provide effective support to an organisation's operational and strategic needs. There is widely held view that FM arrangements should be aligned to an organisation's policies, business processes and core operations, as described in Chapter Two. In selecting FM arrangements, organisations will naturally expect to find that more than one alternative solution is possible for its FM arrangements. Logically they should select the option that appears to be most suitable to meet their specific needs, objectives, constraints and culture. However, organisational support requirements change over time. So, the modification or repositioning of FM support arrangements is an important consideration also. Decisions need to reflect short-term operational requirements and longer-term strategic needs.

Selecting an appropriate set of FM support arrangements involves a process therefore, that includes the clarification and scrutiny of organisational requirements, the consideration of alternative ways in which these requirements could be satisfied, a comparison of the benefits and limitations of the alternatives, followed by the selection and implementation of the preferred arrangement, with measures put in place to prepare for future changes as and when required. In this sense, FM positioning is similar to many decision-making process with shared generic characteristics.

Most of the general expectations concerning the linkage between organisational requirements and FM provisions tended to be confirmed by the case study findings. Organisational support requirements were basically related to organisational characteristics, circumstance and context. Different organisational requirements during different stages of development (Case A and C) led to different FM arrangements at each of the time periods of the investigations, and none of the five case studies had the same FM arrangements. The general hypothesis that different FM arrangements are required by different organisations at different stages in their business development was confirmed, supporting the argument that 'standard' or 'best practice' solutions are unlikely to be the most secure basis for FM practice. Rather, the selection of an 'appropriate' FM positioning solution, customised to the specific requirements, characteristics and circumstance of organisation, and repositioned periodically within a continuous process of adjustment, seems to be a more practical and secure objective.

The cross-case comparisons showed that FM arrangements were dynamic. To retain or sustain their value, FM support arrangements needed to be changed or repositioned over time. A generic interpretation of the case study findings suggests four major origins of FM change repositioning, including contextual changes, organisational changes, changes to business operations, and internal FM changes. These are illustrated in the columns of Figure 6 (4) below.

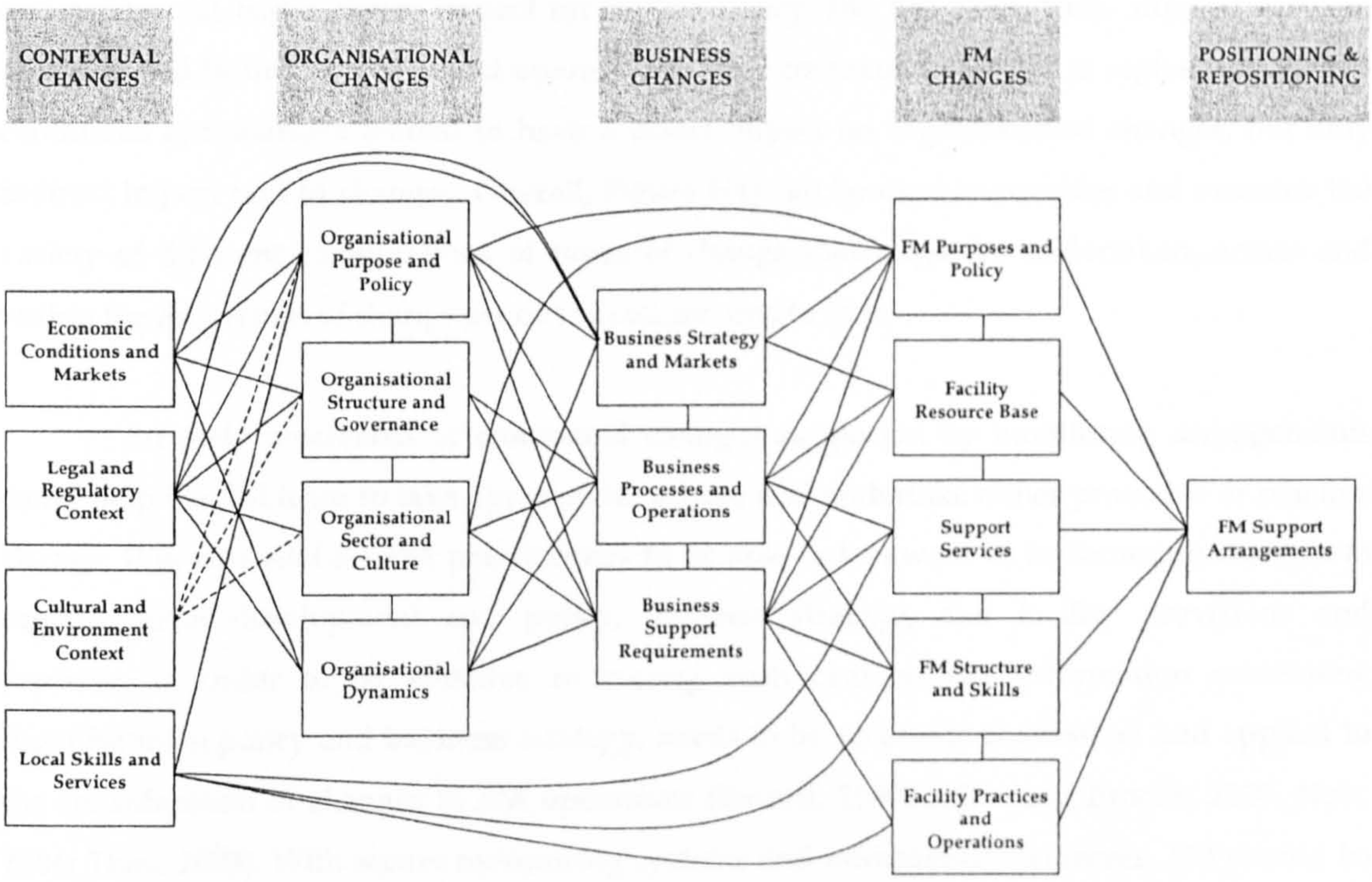


Figure 6(4) Origins of FM Change

Figure 6(4) shows the four levels of change that can induce the repositioning of FM support arrangement. Each of the origins of change can have either a direct or an indirect effect on the repositioning process. At a primary level, support arrangement repositioning can originate within the remit and practices of FM, without any significant organisational changes having occurred (column 4 in Figure 6(4)). The repositioning at this level can be seen as a continuous process of adjustment and improvement in the practices and procedures of the FM team. At an operational level, changes to FM arrangements can occur in response to changes in core business activity, including changes in business strategy and markets, modified business processes and operations, and new business support requirements (column 3 in

Figure 6(4)). FM changes to support business change tended to be in response to an organisation's modified operational requirements for facility resources and support services. At a more fundamental level, some changes to FM arrangements were triggered by major organisational changes such as organisational policy change, structural change, organisational development, and organisational culture change (column 2 in Figure 6(4)). This type of change within an organisation overall, tended to lead to significant changes in FM support arrangements. Finally, the origins of change can arise from external factors again with either direct or indirect impact on FM changes (column 1 in Figure 6(4)). Contextual changes included changes to local skills and services, legal changes to specific issues such as health and safety. All had a direct impact on facility policy, the FM skills base, support services delivery, and facility practices and operations. Other contextual changes to regional economic conditions and markets tended to have a direct impact on organisational changes, but only indirect impact on FM changes. Overall, Figure 6(4) can be used to consider and examine the variety of different combinations of types of change that might be undertaken, across and within the four levels of change set out in column one to four.

An early awareness of contextual changes supported by monitoring arrangements could help the FM team to take appropriate action, and undertake either proactive or reactive change. It is also vital for FM practitioners to be able to be aware of forthcoming changes in organisational development and policy, business strategy, and facility provisions and capacity. In order to be effective in coping with change, key information concerning organisational policy and business strategy, needs to be accessed, understood and applied to the consideration of changes to FM operations (Barrett, 2000; Atkin and Brooks, 2000; Nutt, 2004; Then, 2003). With secure monitoring systems and information databases, FM should be able to examine an appropriate range of core and non-core supports, and choose an appropriate solution for implementation. While the initial positioning of FM is important when organisations are being established, periodic repositioning is also a major concern as organisations continue to change over time. Finally, it should be noted that organisations will not necessarily need to undertake FM changes each time that there are business, organisational or contextual changes. Provided that the gap between the support capabilities of FM and organisational requirements remains non-critical, a 'no-change' option will tend to be preferred.

The majority of case investigations confirmed that organisations look to set up FM arrangements that are capable of supporting both short term operational needs and their longer term strategic requirements. So when positioning or repositioning FM, they seek to align operational and strategic support capabilities with the specific operational and strategic

business requirements of the organisation at a particular time (Nutt, 2004). The investigations showed that any significant gaps between FM support capabilities and an organisation's needs were an important trigger that induced changes to FM support arrangements. This suggests that two major issues need to be faced when positioning or repositioning FM:

- Operational Consistency – the alignment of FM operational capabilities, their functional efficiency and effectiveness, with the operational demands of the business, its processes and procedures, and with the needs of facility and service users.
- Strategic Consistency – the alignment of the FM team's strategic capabilities with the characteristics of the organisation, its stage of development, its long term goal, and business strategies.

These two issues can provide a framework for determining the direction and degree of FM change that may be required. Applying this concept of 'consistency' within the Nutt's formulation of 'Nine Strategic Positions' (Nutt, 2000), a three-by-three matrix of alternative FM positions and change strategies can be constructed, as shown in Figure 6(5).

OPERATIONAL CONSISTENCY	STRATEGIC CONSISTENCY: High	STRATEGIC CONSISTENCY: Medium	STRATEGIC CONSISTENCY: Low
High	ROBUST [Maintain Position]	SAFE [Structural Modification]	CAUTIOUS [Structural Transformation]
Medium	SECURE [Practice Alteration]	NEUTRAL [Incremental Improvement]	INSECURE [Structural Repositioning]
Low	WEAK [Practice Transformation]	VULNERABLE [Practice Repositioning]	EXPOSED [Radical Repositioning]

Figure 6(5) FM Alignments with Business

The positions shown in Figure 6(5) range from the most 'exposed' position (bottom right), where there are low consistencies between an organisation's operational and strategic requirements and the operational and strategic capabilities of FM, to a 'robust' position (top

left) where FM arrangements are highly consistent with an organisation's operational and strategic needs. Each of the nine positions in the matrix relates to different change strategies ranging from 'radical repositioning' to 'maintain position'. Six of these nine strategies were evidenced in the case investigations. The nine change strategies are:

- **Maintain Position:** sustain the status quo of FM operational and strategic support capabilities when current management arrangements appear to be sufficient to support the organisation's needs, both in the short and longer term.
- **Structural Modification:** improve strategic consistency of FM capabilities in order to move towards a more robust position.
- **Structural Transformation:** the major realignment or restructuring of FM policy, functions and scope to develop strategic capabilities for the future, usually as a result of organisational reengineering, business restructuring and/or anticipated changes in FM support requirements over longer term.
- **Practice Alteration:** improve the operational consistency, while sustaining the strategic consistency.
- **Incremental Improvement:** gradual step by step improvements to achieve better strategic and operational consistency overall.
- **Structural Repositioning:** fundamental changes to establish secure strategic capabilities and consistency, while improving operational support capabilities.
- **Practice Transformation:** expand the operational remit of FM, its organisation, staffing, scope of services, and responsibilities, transforming FM functions to fundamentally improve operational support consistency.
- **Practice Repositioning:** the urgent need to reposition operational support capabilities, while improving strategic support capabilities, normally as a result of unpredicted organisational changes to its business operations and/or facility resource requirements.
- **Radical Repositioning:** comprehensive change to FM practices, both operationally and strategically, when an organisation decides that existing FM practice is not capable of handling operational tasks or supporting long term business goals and operations.

Logically, organisations and the facility management teams that support them, will seek to secure positions of high operational and strategic consistency, looking to move towards the positions shown in one of the four top-left elements of the matrix. In contrast, it is to be expected that FM practices in any of the three bottom positions – weak, vulnerable and exposed, will need to take urgent and drastic action to pursue a much improved position at the upper levels as soon as possible in order to reduce the risks of operational failures.

Between these two extremes, it is probable that FM practices that are sustained at medium levels of consistency will hold low levels of risk for an organisation, but further improvements will be desirable.

The matrix shown in Figure 6(5) may be used to review the current capability and consistency of FM arrangements in relation to organisational needs at a particular time. It can also be used to help to determine when changes should be considered, and to examine the degree and extent of FM change that should be undertaken. Take three examples. First, organisations that are changing their structure or business processes significantly, may find that their FM arrangements have insufficient resources and capabilities to deal with the new set of circumstances, and as a result are pushed towards the bottom-right position. This position can be very exposed and potentially harmful to the organisation's operations in both the short and longer term. So, organisations will need to adapt a radical repositioning strategy for major FM changes, to move from this position to at least the neutral position in order to reduce risks of partial operational failure. Second, organisations that have appropriate FM arrangements to meet their current and anticipated operational and strategic needs, will attempt to retain this secure base position as long as possible, while looking for further improvements towards a 'robust' position. While organisations have FM support arrangements that are capable of supporting short term needs, they should again consider gradual improvements for FM between periods of major changes. Third, those within the 'neutral' position in Figure 6(5), will need a secure communication linkage to those who are responsible for organisational policy and strategy, in order to avoid a slippage to a lower position due to unexpected or dramatic changes.

When improving operational and strategic consistencies, the case investigations indicated that a number of decision issues were commonly concerned across the five cases. These issues suggest a set of basic criteria that can be used when positioning and repositioning decisions were made. However, each organisation tended to give different emphasis to different criteria depending on their specific needs, characteristics, circumstances and context. Common criteria included:

- Operational capability
- Service reliability
- Management accountability

- Financial affordability
- Resource availability

- Skill and Quality suitability
- Compatibility to organisational procedures and existing FM practices

- Suitability to support and sustain long term developments
- Potential for change and improvement
- Flexibility for change

Summary

This chapter has examined the patterns of the relationships between FM support arrangements, internal organisational circumstances and the external context across the five case studies. Based on the analysis of these findings, a more generic concept of positioning FM has been developed. The findings from Chapter Five and Six give general support to the research propositions of this thesis that there are no established and tested practices for selecting the most appropriate FM arrangements in any given set of circumstances. They confirm that organisations tend to adopt and develop their FM arrangements to support their specific needs at a particular time in an informal and rather ad hoc manner. In addition, the studies tend to support the expectation that FM arrangements are unlikely to be static and will need to be adjusted and altered as circumstance change. The case for the development of more secure and systematic procedures to assist organisations and facility managers when deciding on appropriate FM arrangements was therefore reinforced. Overall it would seem that the concept of FM positioning would be useful in assisting organisations to identify appropriate FM arrangements to fit their particular needs across a range of circumstances:

- The setting up of FM practice arrangements for a new organisation or for a new facility.
- The repositioning of FM practices when an organisation has or intends to undertake significant changes such as re-engineering or mergers.
- Providing organisation with a tool to reconsider or reposition its FM functions.
- Auditing and improving the performance and accountability of current FM practice.
- Reviewing alternative options for FM when new external developments occur or new technological innovations are to be introduced.
- Identifying critical areas of FM practice for the organisation generally.

In the next chapter, the case study findings and relationships are used to inform and refine the initial theoretical basis of the research that was described in Chapter Three, to help to develop a prototype of FM positioning decision framework and associated decision support tools.

Chapter 7

The FM Positioning Process

One of the major objectives of this research was to develop a practical decision-making framework for positioning facility management arrangements, the need for which was set out and described in Chapter Two. The final part of this thesis describes the development, evaluation and improvement of this decision framework and its tools. This chapter summarises the process of development and issues that needed to be resolved. Chapter Eight describes the assessments that were made of the positioning framework and its tools through expert practitioner scrutiny. It summarises the results of the field trials which provide the basis for the modification and improvements that are set out in Chapter Nine.

The main objectives of this chapter are to describe the development of the FM positioning framework, its stages of decision and its supporting tools. The overall process of development is shown in Figure 7(1). Starting from the results of the literature review and the theoretical model that was described in Chapter Three, the empirical findings from the five case investigations and the cross-case comparisons, the general positioning process was further clarified. These sources were also used to help to develop the main framework for positioning FM, its stages of decision and its supporting tools.

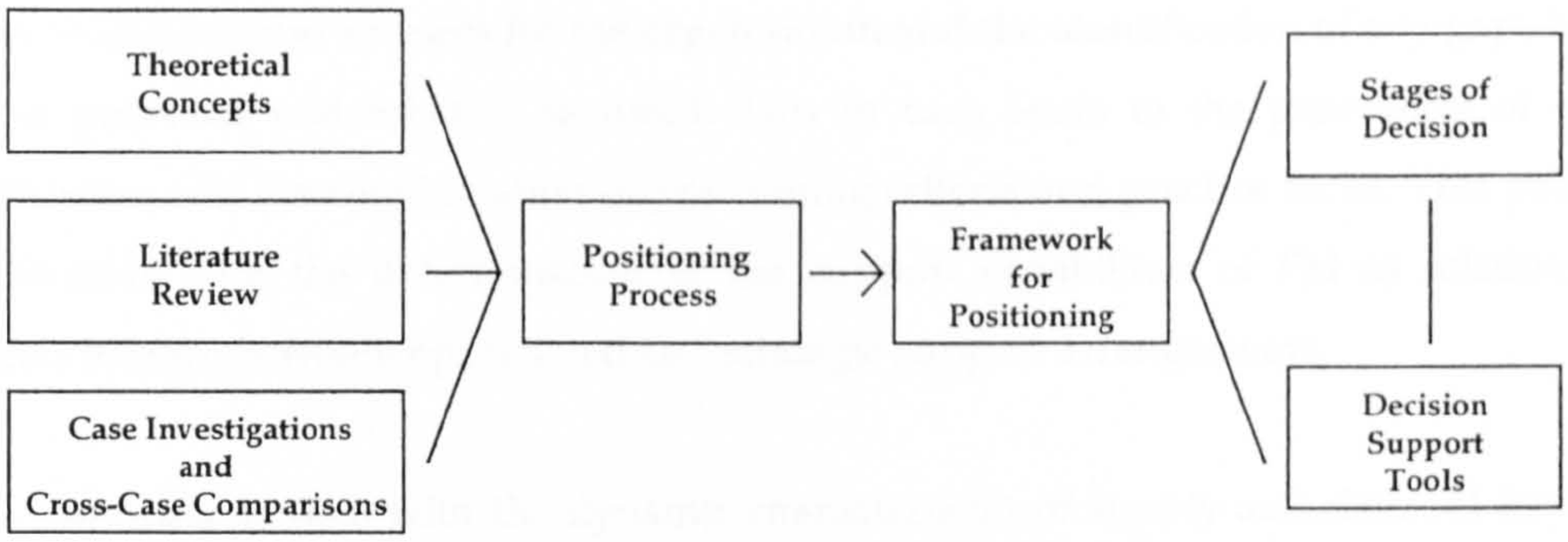


Figure 7(1) Positioning Framework Development

7.1 The Positioning Process

The initial theoretical model of the positioning process, as proposed in Chapter Three, was further developed and refined, given the empirical findings from the five case investigations and cross-case comparisons and examined through an academic discussion event. The revised general description of the positioning process is shown in Figure 7(2).

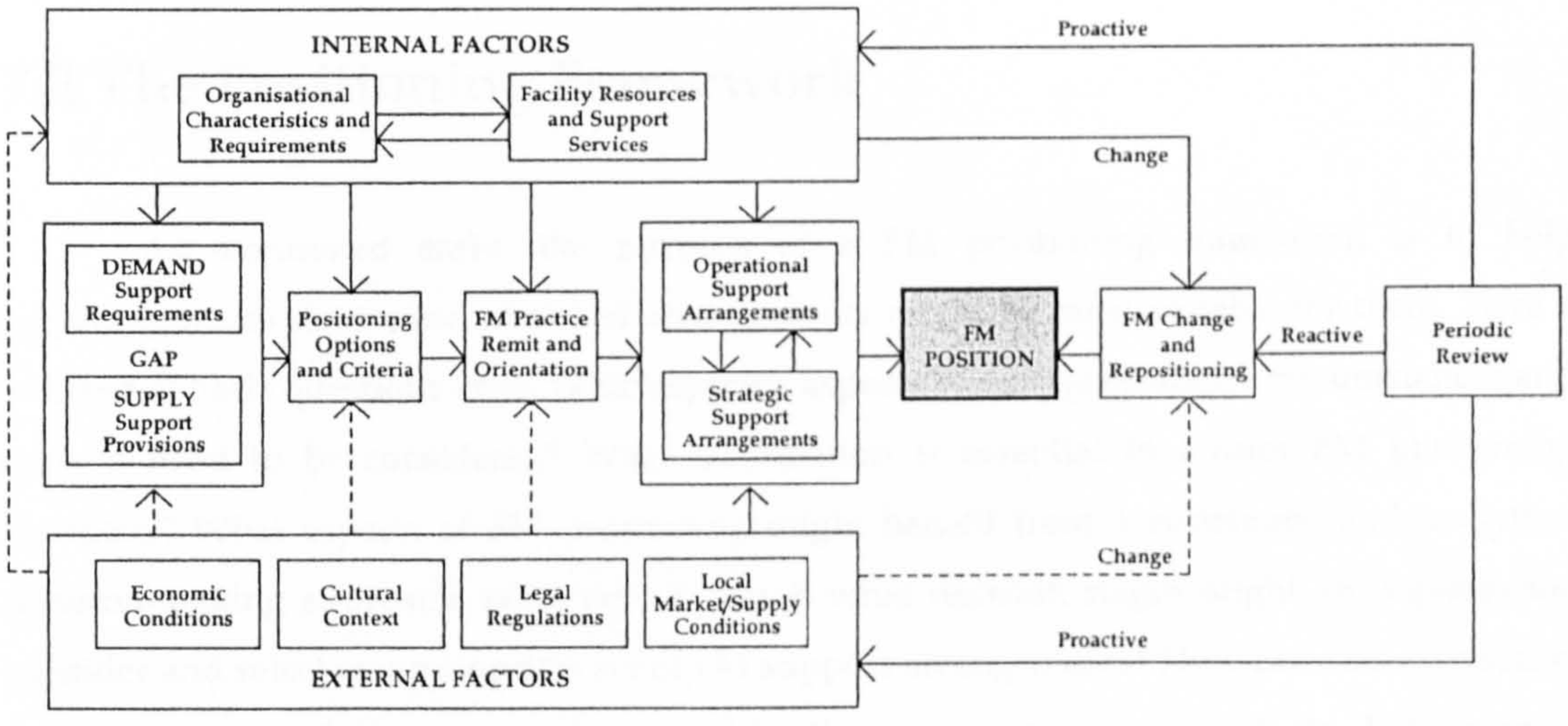


Figure 7(2) General Positioning Process

Overall, the general process as described in Figure 7(2), suggests that there are internal and external factors that will influence the selection of an FM position. Organisational characteristics and requirements, together with the facility resources and support services are regarded as internal factors, which tend to have a major direct impact on the arrangements for FM. On the other hand, external factors relating to the legal, economic, market and cultural context will have a more indirect impact on any arrangements that are adopted. The positioning process starts with the consideration of the supply and demands for facility

resources and support services for the organisation and the identification of any gaps between what is provided and what is required. This in turn leads to the generation of options, prioritisation and the consideration of positioning criteria and practice focus. This part of the process ends with the determination of the support capabilities of FM in relation to the required balance between operational and strategic support arrangements.

In order to deal with the dynamic characteristics of supply and demand factors, the general positioning process description includes a periodic re-examination and a reverse loop for actions, ranging from minor modification to major repositioning. Organisations and facility managers can respond to change in two ways: proactive and reactive management. Proactive change can be undertaken when the changes to internal and external factors have been anticipated or planned in advance. Otherwise, the FM team will need to undertake quick reactive action when unexpected changes are indicated or informed through the system. Overall, the process shown in Figure 7(2) presents a general schema of how an FM position can be derived to match the particular needs of an organisation in specific circumstance. It provides the basis for developing the positioning decision framework in the next section.

7.2 The Positioning Framework

As mentioned early, the purpose of a FM positioning framework is to help organisations to determine what FM arrangements might be most suitable for them. Here a number of basic questions arise. Which specific aspects of an organisation's circumstances and context need to be considered? What information is essential to inform FM positioning decisions? What aspects of FM positioning might benefit from a systematic and analytical decision-making approach, what not? Through what decision stages might an organisation consider and select an appropriate set of FM support arrangements? How can an organisation become aware of the time when modifications or repositioning of its FM support arrangements should be considered? As suggested in Chapter Two, there would appear to be no available methods or decision tools to deal with these problems. Furthermore, the findings from the case investigations indicated that organisations tended to make their decisions in these areas in ad hoc way, based on information to hand. A positioning framework could help to;

- assist the positioning decision process in a rigorous and responsible manner.
- improve reliability of positioning decisions and their implementation.

- identify, generate and select an appropriate set of support arrangements in a systematic way.
- encourage FM practitioners to conduct reviews and monitor their performance in order to improve or readjust FM arrangements to support changing requirements within any new context.

In general, secure decision support methodologies should be adaptable, flexible, and transferable (Arinze, 1987). They should not involve too many stages so that the overall decision process becomes too complex and cumbersome for the user, but not too few so that important steps are overlooked and the process becomes simplistic, unsophisticated and partial (Harrison, 1999). As discussed in section 2.4, an extensive generic decision-making process can involve as many as nine or more stages (Cooke and Slack, 1991), while the most simple, compact process might consist of a single stage only (Moody, 1983). Nevertheless, most authors (e.g. Ackoff *et. al.*, 1962; Harrison, 1999; Eilon, 1969; Samson, 1988; Simon, 1977) have tended to agree that complex decision-making processes should typically be multi-stage and include the following activities:

- the clarification of objectives;
- the collection of information;
- the identification and generation of alternative options;
- the analysis of options, their comparative advantages and disadvantages;
- the selection of a preferred option or solution;
- its implementation;
- feedback and review.

The framework for positioning FM was developed around these listed activities, structured into three distinct activity sets. Since FM arrangements need to meet the specific requirements of an organisation, its characteristics and context, the first stage of the decision process relates to information collecting activities concerning organisational background and policy, business strategies, and operations, etc. The second set of activities focuses on the opportunities and options for the future. In searching for an appropriate FM position, ideally all possible alternative options should be identified, considered and reviewed. Non-viable options should be discarded and viable options should be examined and compared in detail. This second part of the decision process involves the generation and analysis of alternative options, leading to a selection decision and implementation. The third set of activities relates to the re-examination of support arrangements in response to change, both predicted and unexpected. Normally, this will require monitoring arrangements to track internal and

external changes of all kinds and contingency arrangements with which to face the unexpected. When significant changes are underway or expected, then a re-examination of FM arrangements will be required and the need, or not, to reposition FM should be considered.

Based on the above, a three-phase positioning framework was developed. Phase One – information collection, predominantly concerns the profiling of organisational, facility and contextual characteristics. These provide the basis for determining FM policy, objectives and option feasibility criteria in the next stage. Phase Two focuses on option generation, consideration and selection. Phase Three involves the implementation of the selected option and arrangements for periodic review. Within this three-phase structure, seven decision stages for positioning FM were developed in detail. These stages are:

1. The clarification of key factors
2. The investigation of requirements
3. The identification and generation of positioning options
4. The comparison of options
5. Option selection
6. Implementation arrangements
7. Review arrangement

The overall positioning framework is illustrated in the form of flowchart, in Figure 7 (3). The seven stages of the process can be expanded or contracted depending on the circumstances of use. For instance, when dealing with large and complex organisations, with extensive and distributed facility resources and support services, the process might well be extended in order to make thorough considerations and decisions. To the large extent, the process can be broken down into eleven discrete stages of key internal factor profiling, key external factor profiling, supply analysis, demand analysis, gap and priority analysis, option generation, feasibility evaluation, analysis and comparison of short-listed options, final review and selection, implementation arrangement, and periodic review. In contrast, when dealing with simple and small organisations, with limited facility resources and support services, the user might well reduce the framework to as few as four stages, to save time and resources. For this use, phase one and two can be implemented as a total single stage of information collection and option consideration and selection respectively, while phase three can be implemented into two separate stages of implementation and review.

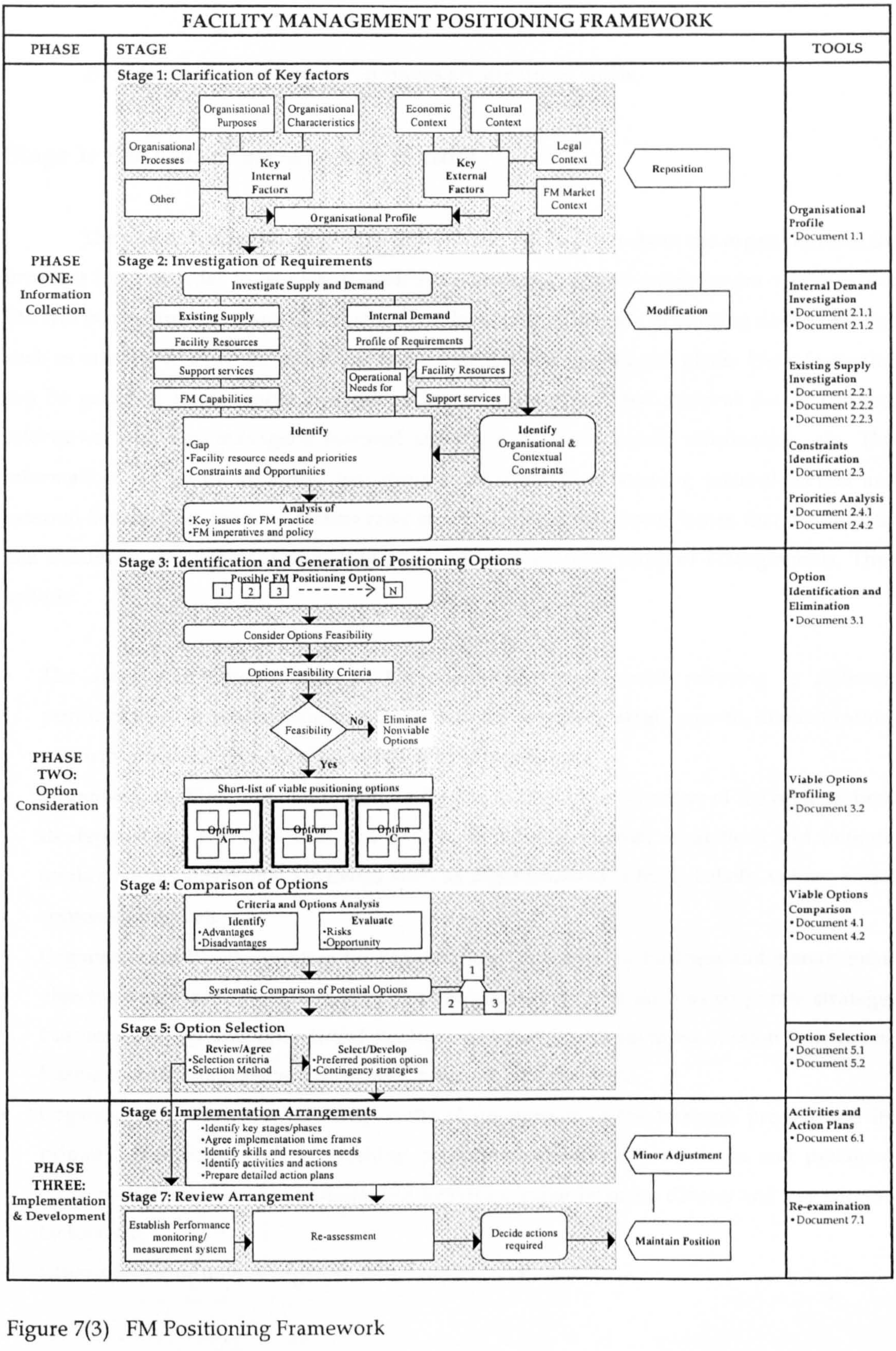


Figure 7(3) FM Positioning Framework

7.3 Stages of Decision

The details of each of the seven stages are described below.

Stage 1: The Clarification of Key Factors

The aim of this initial stage is to collect basic information about the organisation at the broadest level in order to be able to profile the business support environment within which FM will be required to operate. This stage involves making full use of existing documentation such as mission statements, stated business strategies and operational plans. The information can be gathered from various sources such as organisational and archival documentation, interviews with key managers, national and local statistics, public information, etc. This information can be divided into two groups: information concerning internal factors and external factors. The 'internal' factors refer to the set of organisational issues that can directly and indirectly affect the consideration of facility management support arrangements. They include:

- The stage and circumstances of Organisational Development referring to different positions in an organisation's lifecycle such as the formation stage, growth, diversification, maturity consolidation, amalgamation, restructuring, etc.,
- Organisational Structure and Systems referring to the formal structure of the organisation, its departments and divisions, and lines of delegation, internal regulations and to more qualitative organisational attributes such as organisational culture, beliefs, values, social responsibilities, etc.
- Organisational Policies concern the organisation's purposes, its business and management objectives and initiatives, including its strategies at all levels such as corporate strategy, business strategy and operational strategy, referring to documented mission statements, business goals, management directives, forecasts and plans, etc.
- Organisational Processes referring to the characteristics of the business process and its primary operations, such as working processes, operations, procedures and practices, office operations, working patterns and activities, major business drivers and key success factors, etc.
- Other specific or unique organisational information.

Information concerning possibly relevant 'external' factors refers to variables and constraints that are outside the organisation's direct control or influence, but can indirectly or directly affect FM arrangements from time to time. These include:

- The Economic Contexts: the general state of the national and local economy, as described through relevant economic indicators, trends, real estate market performance indicators, etc.
- The Cultural Contexts: the prevailing set of attitudes, beliefs, values, tolerances, and preferences within the local culture, including cultural expectations that affect service standard levels and quality.
- The Legal Contexts: local law, legislation, codes and regulatory requirements that will directly impact on organisational responsibilities and facility management practices.
- The Local FM Context: the capacity of the local facility management market, including service supplier availability, the competency of service providers, the available FM skills base, etc.
- Other

Ideally, the outputs from this stage will include a comprehensive profile of organisational characteristics, purposes and processes support by secure information of all relevant factors. However, it is essential for an organisation to add any other information that is particularly important for it or is likely to have high priority during the time period of consideration, including any organisational or business uncertainties for the future.

Stage 2: The Investigation of Requirements

The second stage of decision shown in Figure 7(3), involves the collection of information about the demand for and supply of facility resources and support services at a detailed level. It investigates both present and future needs for resources and services, identifying any support gaps and considering the priorities of FM over the short and longer term. This stage consists of four main parts:

- Supply Investigation: the identification of the current capacities of the supply of facility resources and support services, and the capabilities of FM arrangements and team. The facility resource investigation will include the clarification of facility features such as its typology and sectors, the size of facilities, their locational distribution, their morphologies, systems, tenure, and condition. The support service component of the investigation will include a description of the existing set of service provisions; their range and extent of

coverage, their cost and the levels of service quality. The existing FM human resource base also needs to be clarified through the investigation of its experience, skills and knowledge, within the context of the FM budget, and FM information technology supports. The following questions need to be addressed:

- What facility resources and support services does the organisation have now?
- To what degree do the facility resources and support services support or constrain the organisation's operations?
- What are the current organisational staffing and contextual constraints to FM practice?

- Demand Investigation: the identification of short and longer term support needs of business processes, their primary operations, employee and customer requirements, and facilities in relations to resources, support services and their management. These questions need to be addressed:
  - What facility resources are essential to support the primary operations of the organisation in the short and longer term?
  - What services are needed to operate and maintain the facilities effectively?
  - What services are fundamentally needed to support employees and customers?
  - What should the priorities for FM arrangements be?

- Gap Analysis: the detailed analysis of all identified gaps between demand and supply and the examination of likely future constraints and opportunities.

- Interpretation: based on the outputs of the analysis of organisational demand and the current and projected supply of FM capacity and capabilities, to prioritise the areas and issues that FM needs to address for the short, mid, and long term future.

At the end of this stage, the organisation should have been able to ascertain a clear statement of needs for facility resources and support services, and to have clarified the critical issues and priorities for facility management policy and practice, with outputs from this stage including profiles of demand and supply, support gaps, organisational and contextual constraints, and imperatives for FM generally.

Stage 3: The Identification and Generation of Positioning Options

Decision Stage Three begins the second phase of the positioning process as illustrated in Figure 7(3). The objectives of this stage are to identify, generate or create a comprehensive

range of alternative options for FM support arrangements, and to distinguish viable options in order to produce a short-list of possibilities. This stage consists of three main activities:

- Generating alternative options for FM support arrangements: to describe all of the possible types of FM arrangements that might be suitable to meet organisation's needs from available published sources of information, by systematic searches to identify 'good' or 'best' practice exemplars and through the creative consideration, invention and development of novel approaches and innovative solutions, alongside the 'status quo' or no-change option. Key questions include:
  - What options might be appropriate for our organisation, which not?
  - Which of the options known are feasible for our organisation, which are not?
  - Can we generate any additional new options that might benefit our position?

- Deriving a Shortlist: converging on a minimum of two to a maximum of some five feasible options for detailed examination through the elimination of non-viable or inappropriate options. The organisation will need to apply basic feasibility criteria, such as financial viability, practicality and operational reliability, etc., together with any additional criteria to satisfy the organisation's unique requirements. Option elimination from the standpoint of organisational requirements and contextual constraints will result in a short-list of potential FM positioning options for more detailed examination. The main question is:
  - What criteria should be used to eliminate non-viable options, and what elimination techniques might be used?

- Option Profiling: preparing a detailed profile of each option, in this final part Stage Three, the key attributes of each option are discussed, examined and summarised. The key attributes are FM purpose and policy, service focus, priority function and role, scope and responsibility, level of management involvement and decision making, FM structure, service delivery arrangement and performance accountability. The main question being:
  - How and to what degree should the short-listed options be profiled in detail?

Stage 4: The Comparison of Options

In Stage Four the options that have been short-listed are examined in detail and then evaluated and compared, one with another. This stage considers the potential value of each option for the organisation in relation to both positive and negative characteristics. This stage includes the following activities:

- The identification and examination of the potential advantages and limitations of each candidate option in relation to the organisation's purpose and policy, its business processes, staff and customer support, and to FM operations and practices.
- The analysis of the possible risks and opportunities within each option.
- The comparison of the short-listed options against agreed criteria.
- The documentation of the results of an option appraisal as the base for option selection.

These activities need to be undertaken with thorough and systematic procedures. Short-listed options should be assessed, compared and ranked based on their capabilities and potential to meet short and long-term needs, employing a combination of 'hard'[1] and 'soft'[2] ranking approaches. Each viable option will need to be rated and weighted against agreed evaluation criteria. Examples, as discussed in section 6.4, include:

- Operational Capability/Reliability: an option's ability, capacity and potential reliability in meeting day-to-day service support requirements.
- Service Accountability: the degree to which an option is capable of achieving agreed standards of service provision and improvements over time.
- Skill Suitability: the appropriateness of an option's FM skill base to manage agreed facility and support services in accordance with FM policy, function and remit.
- Financial Feasibility: an option's feasibility as part of an organisation's business strategy and financial policy over the short and long term.
- Compatibility and Consistency: an option's suitability to give balanced operational and strategic support to current and anticipated corporate circumstances.
- Flexibility and Versatility: an option's capacity to accommodate change across the combination of change circumstances shown in Figure 6(4), page 154.
- Sustainability: an option's robustness and long-term capability to support an organisation's changing business support environment.
- Any other specialist criteria.

The above criteria are generic and it is to be expected that an organisation and its decision makers may wish to add to this list or use other criteria and methods. For Example, decision makers might use other analytical methods, such as cost-benefit analysis, SWOT analysis, opportunity-risk analysis, balance-scorecard, etc., to inform their comparisons of

[1] A 'hard' approach refers to a ranking method where each of the options is evaluated against key factors or criteria in the environment, resources and expectation, and scored. In implementing the evaluation, the criteria are given weighting based on their significance to the organisation. (Hax and Majluf, 1990)
[2] A 'soft' approach refers to the use of a ranking scale relative to the ability to achieve the criteria, i.e. most competent, capable, and least competent. (Hax and Majluf, 1990)

options and their selection decision. Furthermore, it is not suggested that these formal criteria and methods should replace the experience and judgments of business managers and facility managers. The value of comparisons and judgments that are based on managerial experience and practice insights should not be superseded by decision criteria used within the positioning framework.

Stage 5: Option Selection

The purpose of the fifth decision stage is to ensure that the most appropriate and robust option is selected from the short-listed alternatives. At the start of this crucial selection stage, the results of the option analysis from Stage Four, need to be summarised, presented and reviewed by senior members of the organisation and the facilities team. In making the final decision, the organisation and the decision-makers may need to apply additional criteria to re-evaluate the short-listed options, particularly to ensure that loner term business uncertainties and alternative organisational futures are taken into account. So the activities at this stage include:

- Agreeing on final selection criteria and methods. The following questions should be addressed:
  - Are additional selection criteria required and for what precise purpose?
  - What method of selection is to be used, e.g. a process of elimination or an optimising approach, etc.?
  - How will expert judgements and 'good' practice experience be combined with the objective criteria and more formal ranking methods?

- Final systematic review at a senior level of the short-listed options, their relative advantages and limitations. The activities involve final examination and ranking of option against different combination of criteria and judgements.
  - Which option promises to meet the needs of the organisation most comprehensively now and in the future?

- Discussion and final selection. The main question is:
  - What are the anticipated risks and opportunities of the selected option? What measures can the organisation take to minimise or mitigate the risks and to realise the opportunities that the option entails?

Once an option has been agreed and selected, contingency provisions also need to be considered to prepare for unforeseen circumstances and changes that might arise during the implementing stage and beyond. Ideally, these contingency plans for the short-term and contingency strategies for the longer-term should be an integral part of the specification of the selected FM positioning option at the end of this stage of decision.

Stage 6: Implementation Arrangements

Once the preferred positioning option has been selected, the organisation and FM team will need to plan its implementation, the stages of its introduction, timeframes, targets, and action plans, agreeing on the necessary activities and responsibilities. This will require discussion with those who will be involved in the process, both the key staff and departments that will be affected by the change (Daft, 2000). This sixth stage in the decision process, is likely to face the usual problems that are encountered in a change management process (Thomson, 1997) and involve the use of managerial, administrative, and persuasive abilities to ensure that the implementation of the chosen option is progressed enthusiastically across the organisation. Within this context, the organisation and facility management team should cooperate to discuss and agree the following issues:

- Organisational support and the commitment of business managers, including the resources and skills required for implementation, particularly sufficient financial, human and information resources.
- The phase of the implementation process, the timeframes involved and the identification of the key stages in the project management of the implementation process with detailed plans and targets.
- Detailed action plans and the activity steps required to support the implementation.
- Contingency plans to respond to the unforeseen problems and issues that might arise.
- Other additional arrangements that are necessary to support any specific process of implementation.

Stage 7: Review arrangement

The final stage of the decision process shown in Figure 7(3), concerns the range of measures that might be put in place to re-examine FM arrangements as circumstances change. organisations, their business processes, support requirements and context are dynamic. It is to be expected therefore, that FM arrangements that were initially appropriate and secure will become less so over time. FM practices need to be reviewed periodically, re-assessed and

adjusted if they are to continue to support and sustain organisations effectively. This stage will need to:

- Establish a periodic FM positioning review system
  - Select an appropriate cycle for the review. The frequency of the re-examination should depend on the anticipated rate of change and business dynamics of the organisation, the time horizon of its strategic plan, and the market environment. Too frequent re-examination could be wasteful and disruptive, while infrequent re-examination may have a detrimental cost for the organisation through the delay in adjusting to changing business needs.
  - Determine the level and method of re-examination.
  - Ensure strategic and operational consistency between the FM position, its provisions and capabilities, with organisational requirements and circumstances (see the 'FM Alignments with Business matrix', as proposed in Chapter Six on page 156).
- Put measures in place to update information concerning changing organisational demands to permit proactive actions to accommodate for future change.
- Set up monitoring arrangements with which to assess FM performance.

The outputs of the final stage will form the basis for a performance measurement and monitoring system, its timeframes and repositioning decisions ranging from minor adjustment to radical repositioning, and all part of FM change management arrangements generally.

7.4 Positioning Decision Tools

The FM positioning framework and its seven main areas of decision, helps to structure the positioning process but requires a set of specific decision tools for implementation in practice. The term 'tools' refers here to a set of instruments or tangible aids to support a decision process (Kettinger *et. al.*, 1997). Decision tools need to be practical, sufficient to cover the stage of decision, consistent one with another and flexible for different organisational circumstances of use. The positioning tools that were developed as part of this thesis, referenced in the right hand column of Figure 7(3), were intended to:

- Assist information collection and profiling, provide a basis for discussion and decision making, information analysis, and the preparation for option implementation;
- Provide checklists, documents for discussions, and essential criteria, all as aids for analysis, evaluation and decision;
- Reduce time consumption in collecting, sorting and analysing information generally.

The development of the tools adopted the concept and format of a worksheet[3], which is a well establish type of tool for processing information and supporting decision making (Platts and Gregory, 1990). The use of worksheets provides and 'traceability' to the user, where the logic and data are recorded and can be revisited periodically. The supporting tools, as developed in this thesis were called 'workdocuments'. Each was designed to support specific needs at particular stage in the positioning process. Seventeen workdocuments were proposed overall, as presented in Appendix D, page 320. Their purposes of use are summarised in Table 7(1).

Table 7(1) Positioning Tools Summary

STAGE	PURPOSES OF TOOLS	WORKDOCUMENTS
1 Clarification of Key Factors	• To collect and profile contextual information.	• 1.1 Organisational Profile
2 Investigation of Requirements	• To profile and describe organisational requirements. • To profile operational needs and priorities.	• 2.1.1 Profile of Requirements • 2.1.2 Operational Needs
	• To profile and document current facility resources. • To profile and describe existing support services. • To profile and describe current FM capabilities.	• 2.2.1 Current Facility Resources • 2.2.2 Existing Support Services • 2.2.3 Current FM Capabilities
	• To tabulate organisational constraints in arranging FM.	• 2.3 Constraints Identification
	• To document the key issues and imperatives for FM.	• 2.4.1 Key Issues for FM • 2.4.2 Imperatives for FM
3 Identification and Generation of FM Positioning Options	• To identify and list all possible positioning options with working file documentation. • To eliminate non-viable options • To detail profile of short-listed options.	• 3.1 Option Identification and Elimination • 3.2 Viable Option Profiling
4 Comparison of Options	• To provide decision instruments for option investigation, analysis and comparison.	• 4.1 Advantages and Disadvantages • 4.2 Option Analysis and Comparison
5 Option Selection	• To provide guidelines and (provisional) criteria for final option selection. • To provide instruments to help generate contingency plans.	• 5.1 Selection Criteria and Decision • 5.2 Contingency Plans
6 Implementation Arrangements	• To provide checklists of actions, commitments and resources required for implementation.	• 6.1 Activities and Action Plans
7 Review Arrangement	• To provide checklist and instrument for assessing positioning consistency. • To provide instruments for repositioning action.	• 7.1 Position Consistency Review

[3] An example of using worksheet to support a strategy formulation process is shown in a work of Manufacturing Audit in the Process of Strategy Formulation, developed by Platts and Gregory (1990).

7.5 Use Applications

In this chapter, a decision framework for positioning FM has been developed and described. The positioning process aims to provide a systematic framework to support and assist discussions, evaluations and decision making rather than a prescriptive process that is to be followed in all cases and under all circumstances. The intention is to encourage organisations and facility managers to think critically about alternative FM arrangements as rigorously as is possible. The framework is based on a flexible and adaptive approach and has been developed for multi-purpose uses. These include the initial establishment of FM arrangements, the assessment of any given FM position and its capabilities, and the consideration of repositioning possibilities as circumstances change. In addition, different organisations will have different business strategies, different organisational policies and requirements, different priorities and cultures, with a wide variety of facility types, working processes and customer-interfaces. This variety will result in different emphases being given to operational business needs and to the support services that are provided. So organisations are likely to apply different policies and criteria when selecting their FM support arrangements. Given this variety, the extent to which the framework might be applied should be based on its practical effectiveness and efficiency in use to handle the specific circumstance of any particular organisation. In this respect, organisations should consider two types of modification to make the best use of the positioning framework: the calibration and customisation of the decision process overall.

To cope effectively with their specific set of requirements, organisations will need to calibrate the positioning framework and its decision tools, tailoring its stages and processes to meet its own unique circumstances of use. This may require the inclusion of an organisation's own methods, techniques, and decision criteria. It should also be mentioned that the positioning framework and tools were not intended to be exclusive. They do not supersede, replace or curtail the use of other methods and techniques. The advantages of including other established methods such as Building Quality Assessment (Baird *et. al.*, 1990), ORBIT-2 (Davies *et. al.*, 1985) and Real Estate Norms (Baird *et. al.*, 1990), as suggested in workdocument 2.2.1 should always be considered. In addition, an organisation can customise the decision framework by selecting some but not all stages of the process. For example, small organisations with less complex organisational structures and simpler support requirements may not need to conduct an exhaustive search, as should be undertaken by a large national or global organisation. Organisations may also choose to start from different points in the process. For example, if improvements to the existing arrangements are the primary focus, then it could begin at Stage Seven. If on the other hand, the organisation wished to test and

compare a new and innovative set of support arrangements against its current 'best' practice solution, then it could choose to start at Stage Four, adding the new potential option to the short-listed options of the past. These issues will be considered further in the concluding chapter of this thesis. Overall the decision framework promises to provide a more systematic way of considering FM arrangements and practices for organisations across a variety of settings. However, the general applicability and potential value of the process and its tools need to be assessed and discussed. The next chapter describes the field tests that were undertaken, their results and the indications of how the positioning framework might be improved.

Chapter 8

The Assessment of the Positioning Framework and its Tools

The framework for positioning FM, as described in Chapter Seven, was developed from a theoretical perspective informed by the results of the literature review, the five case investigations and by research and practice group discussions. All theoretical decision frameworks and decision tools of this kind need to be scrutinised and tested prior their use in real applications. This chapter summarises the assessments of the developed framework that have been undertaken as part of the Ph.D. research programme.

One of the main objectives in developing the Positioning FM framework was that it should be of practical value to those working in the field. Scrutiny and assessment by those with extensive practical experience of FM is therefore particularly important, whatever method of testing is adopted. Practitioner scrutiny needs not be limited to an assessment of the practical value of the approach alone, but can also seek to provide expert opinion concerning modifications and further developments to improve the usefulness of the positioning framework and tools in practice.

Real-time field trials were not feasible within the context of a Ph.D. study, so alternative approaches were reviewed as described in section 4.6 in Chapter Four. An 'Applicability Trial' approach was selected to assess the Framework and Tools as thoroughly as possible, but from a variety of hypothetical rather than 'real' decision circumstances within

the constraints of cost, time and manpower that are associated with Ph.D. research. This approach was feasible in terms of time and cost, and is capable of providing valid result at a preliminary level of evaluation. The purposes, design and procedures for the Applicability Trial will be described next, followed by an account of the analysis of the results.

8.1 The Purposes of the Trial

The general need for a positioning framework for FM was introduced in Chapter One. This formed the basis for the main theoretical proposition of the thesis that

> *"The selection of an appropriate facility management arrangement is essential for the achievement of good facility management practice. However, neither the adoption of a standard 'good practice' position nor a solution that is uniquely tailored to meet the current specific needs of an organisation will necessarily be the best. Rather, an adaptive framework that reconciles the specific needs of the organisation and its context with the global 'good practice' and generic principles of FM should be developed.*
>
> *In order to support the core operations of the organisation, the facility management arrangements need to respond to the specific needs of the organisation, its facilities and its contextual environment. However, although organisations are within the same environment, i.e. same region, context and culture, sector, and at the same organisational stage, they may require quite different FM practice arrangements.*
>
> *In addition, to sustain this support over time, FM practices will need to be reviewed, modified or restructured as the environment of practice changes."*

The general purpose of the trial therefore, was to re-examine this perceived need for a positioning framework from the standpoint of those in FM practice and consultancy. Given that a positioning framework was seen to be of potential practical value, the main purpose of the trial was to test the degree to which the decision framework and tools, as developed through the research, was applicable to different types of organisation, in different sectors and in different countries and circumstances. This part of the trial would begin to assess the general robustness of the 'generic' positioning framework when used in the 'specific' circumstances of any given situation (Nutt and McLennan, 2000).

Within this general purpose, a trial also needs to examine the usefulness of the framework and tools in real world circumstances, how easily or not is it to comprehend and to use. The practical usability, applicability, flexibility and adaptability from a facility managers viewpoint, all need to be examined. The opinions of practitioners also need to be considered as to whether the decision process is sufficiently comprehensive, systematic and secure. Here the Trial would invite practitioner responses relating to the completeness and balance of the decision process and its stages, seeking opinions regarding any bias, omissions or over emphasis within the process.

The Trial should also provided an opportunity for detailed scrutiny and invite comments on the perceived strengths and weaknesses of specific parts of the process and individual decision tools. It can also encourage suggestions and ideas from Trial participants, for the modification, improvement and further detailed development of the framework and tools, and provide an opened opportunity for them to raise additional issues and concerns. In summary, the purpose of the Trial was:

- To confirm, or not, the general value and usefulness of the approach.
- To test and assess the relevancy, sufficiency and applicability of the framework and tools.
- To identify ideas and areas for modification, further improvement and development.

8.2 Trial Design

The detailed design and development of the Applicability Trial aimed to provide a simple, clear, unambiguous and self-explanatory set of 'stand-alone' documents suitable for distribution to trial participants by post. The trial documentation was designed to contain sufficient information, not too lengthy to deter the respondents from completing the assessment, nor too short to inhibit an understanding of the positioning process.

As discussed above, the Trial participants would firstly be asked to comment on the general applicability of the process and tools with reference to a hypothetical situation. It was realised that there are a wide variety of organisational situations that might generate the need to consider the positioning and repositioning of FM arrangements. These situations could be specific to a particular organisation so what is appropriate for one organisation may not be for another. To avoid these complexities, the trial selected three conventional situations representing the simplest recurrent circumstances that might be involved in any FM positioning or repositioning decision. These hypothetical situations were a past situation – *"In regard to the latest review of his/her FM arrangements ..."* , the present situation – *"If FM manager*

was to review the current FM arrangements now ...", and a future situation - "If FM manager had to radically reconsider the FM arrangements for the organisation ...". The participants were free to choose one of these common by hypothetical situations; past, present and future, from which to make their assessment of the FM positioning process.

The assessment involved the examinations of the three main phases of the decision process, its seven stages, its overall features, and any perceived strengths and weaknesses of the framework and its associated tools as it discussed in Chapter Seven. The experts were asked to evaluate each of the three main phases of the process and the value of the approach overall:

- Phase One: The collection and Use of Information. This phase involves an assessment of two stages: the collecting and sorting of essential information and the specific investigation of the internal demand for facility resources and support services and the currently available supply.

- Phase Two: The Consideration of Positioning Options. This phase involves the appraisal of three stages of decision; the identification of potentially viable positioning options, the comparison of the potential advantages and disadvantages of short-listed options, and the selection process by which the preferred option is chosen.

- Phase Three: Implementation. This phase involves the evaluation of two stages; the detailed measures for the implementation and development of the new FM position and the arrangement for periodic review, re-examination and future adjustments.

- Overall Features: This final part of the evaluation is directed at the features of the decision process and its tools overall, including an assessment of their general applicability, strengths and weaknesses.

In making an assessment of the applicability of the process and tools in these four areas, an appropriate set of assessing criteria was essential. Many criteria have been suggested for use to evaluate or assess new models, frameworks, methods or instruments (Fossett *et. al.*, 1991; Gass, 1983; Platts, 1993; Straub, 1989). These criteria include technical validity, operational validity, dynamic validity, usability, model validation overall, feasibility, adaptability, etc. Gass (1983) argues that the set of criteria should be selected to suit the individual assessment based on the characteristics of the particular model. For this Trial, the potentially relevant criteria include usability, cost, feasibility, risk, logical consistency,

coverage, flexibility, and adaptability. Since the trial was hypothetical, the criteria of cost, feasibility and risk could be problematic and difficult to apply outside of a 'real' application. Eventually, four key criteria were chosen, together with 'other', for the Applicability Trial:

- Usability and practicality – how easily could the process of consideration and decision be followed, and to what extent might it help in the formulation of FM arrangements?
- Logic and structure of the process – is the framework arranged in a systematic and logical fashion?
- Coverage and emphasis – does the framework and tools cover the essential areas of concern and include sufficient stages in the positioning process?
- Flexibility and adaptability – could the framework be adapted for use across a range of circumstances, different organisations, sectors and decision situations?
- Other – are there other criteria that should be used as suggested by the respondents.

The comments and opinions of the experts were collected through a survey questionnaire in two parts which invited indicative comments and open-ended opinions. In the first part, individual experts were asked to comment on each phase of the decision process, the associated tools and the overall features of the system, against the criteria listed above, using a five-point scale. In relation to this scaling system, it should be mentioned that alternative binary, three, seven and ten point scaling systems were considered in relation to the properties of the questions to be asked and the criteria to be used (Bernard, 2000). The binary and three-scale approaches were considered to be too simplistic and too broad for assessing 'applicability' against the listed criteria. In contrast, while seven- and ten-point scales like Semantic differential scales could have provided more detailed results, they were considered to be too difficult to apply with levels of discrimination that were too fine for the judgements of the respondents and the analysis of results. In this case, the five-point scale approach, of 'strongly agreed', 'fairly agreed', 'agreed/acceptable', 'fairly disagreed', and 'strongly disagreed' was considered to be suitable for discriminating between the comments of the experts to an appropriate extent in hypothetical trial. It allowed the respondents to express finer-grained views compared with a three point scale to produce practical results for the analysis and evaluation.

In the second part of the questionnaire, the respondents were also asked to give their opinions, reservations or suggestions in response to open-ended questions which were attached to the indicative comments. Finally in the last part of the questionnaire, they were asked to comment on the strengths and weaknesses of the positioning framework and tools generally, with any suggestions for further improvement.

There were four main sets of questions. The first set of questions aimed to assess the practical applicability of the information collection phase. The questions here were:

- Does the information gathering process and its tools provide a secure and systematic basis to assist in the collection and sorting of essential data for positioning FM?
- Can the essential and relevant information be collected by using the process and tools?
- Will the information to be collected by the process be sufficient for FM positioning?
- Could the data and information gathering process and tools be adapted for use across a range of organisations and sectors?

The second set of questions addressed the perceived usability of the positioning process and tools and aimed to assess:

- The degree to which the option consideration process was seen to provide a useful framework for identifying and generating possible FM position options.
- The degree of agreement concerning the value or the process and tools in helping to eliminate non-viable options in order to define a short-list of potential options.
- The use of the process and tools in helping organisations and facility managers to compare options and selecting a preferred option.
- The usefulness of the proposed feasible criteria (WorkDocument 3.1) and their sufficiency for the elimination of non-viable options.
- The usefulness of the comparison criteria (WorkDocument 4.1) and their sufficiency for comparing short-listed options.

The third set of questions focused on the assessment of the implementation phase of the decision process. They were:

- Does the implementation and development process and its tools provide useful and necessary stages for the introduction of a new set of FM arrangements?
- To what degree will the periodic reviews wassist the essential activities for re-examination and development?
- Will the process and tools provide a systematic basis to assist organisations and facility managers in making repositioning decisions for FM support arrangements when the context changes?

Finally in the forth set of questions, participants were asked to comment on the overall features of the decision process:

- To what degree will the FM positioning process and its tools provide a useful basis for arranging facility management practices within any given organisation?;
- Does the process and tools provide a systematic and logical approach to positioning FM?
- Could the process and tools be adapted for use in a range of circumstances, organisations and sectors?
- Does the process have sufficient stages? In addition, the experts were invited to provide their opinions and suggestions.

The sixteen questions set out above were incorporated within the Trial Questionnaire. Each of these questions was expressed in the form of a clear and unambiguous statement. Trial participants were invited to express the degree to which they agreed or disagreed with each statement using the five point scale mentioned earlier. Point 5 on the scale indicated strong agreement with a statement, Point 1 indicated strong disagreement. The Questionnaire is included in Appendix C as part of the complete set of documentation entitled 'The Applicability Trial Package' on page 296. This package was piloted with academic colleagues and selected FM practitioners prior to use and the results used to make minor modifications and amendments for clarity and completeness. The Trial documentation explained the purpose of the trial and gave an introduction to the package material with instructions for its use. The package consisted of three specific documents:

1. Document A: a single page summary description of the proposed FM positioning process, its three phases and seven stages, together with a schematic diagram of the overall decision process and its associated tools.
2. Document B: a complete set of the proposed seventeen positioning tools with explanatory documentation.
3. Document C: a three-page questionnaire for completion and return by the individual Trial participants.

8.3 Trial Procedure and Analysis Framework

The procedure for the Applicability Trail consisted of four main stages:

1. Establishing the Sample Base for the Trial.
2. Short-listing and Selecting the Trial Participants.

3. Delivering the Trial Package and Instructions.
4. Collating, Tabulating and Analysing the Trial Returns.

In order to achieve a broadly based assessment of the FM positioning process, the Trial needed to include organisations and participants from a selection of facility sectors. A comprehensive approach to include a representative sample from all of the main facility sectors was not possible within the limited number of trials that were considered to be logistically feasible to undertake. Four major facility sectors were therefore selected, namely private and public sector offices, healthcare, and education, together with a general category relating to 'consultancy' expertise. The potential Sample Base for Trial participants was then drawn from three main sources; the FM Exchange network of UCL[1], the delegate database of the FM Futures Conference – the Future II in Property and Facility Management conference[2], and the delegate database of Facility Management Thailand 2002[3] to include potential participants with expert practice experience in Thailand.

The second stage of the procedure used this sample base of some three hundred potential participants and through a process of discussion and elimination[4] converged on a short-list of thirty FM experts, all with extensive FM work experience within major organisations across the five categories mentioned earlier. It was anticipated that a sample of thirty might produce ten to fifteen actual returns. The short-listed potential trial experts were then sent a letter of invitation to participate (see Appendix C, page 296) with a published article on Positioning FM (Chotipanich, 2004b) as background information. Potential participants were approached individually and had no knowledge of others that were being invited to take part. Twenty positive responses expressing an interest in taking part were received. These formed the final sample base for the Trial. The Applicability Trial Package (see Appendix C) was distributed to this expert group in the first working week of January 2005. Participants were asked to return the questionnaires within three weeks and most did so. Thirteen questionnaires were returned, comprising ten UK and three Thailand responses. The returns consisted of seven from the private office sector, one from the public office sector, one from education, one from healthcare, one from a commercial property position, and two from senior consultancy practice. The framework for the analysis of the returned Trial questionnaires had four main stages.

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[1] The FM Exchange at UCL is an international alumni network consisting of some 150 past MSc. FM graduates, advisors, specialist lecturers, and organisations involved in collaborative research.
[2] "Future II in Property and Facility Management" Conference, 25th-26th March 2004 organised by University College London, University of Reading, and College of Real Estate Management.
[3] Facility Management Thailand 2002, July 2002, the first FM conference in Thailand organised by Chulalongkorn University, Bangkok, Thailand.

1. A preliminary tabulation of responses.
2. The analysis of general comments and opinions concerning the decision framework and its tools overall.
3. The analysis of specific comments and opinions related to each of the three detailed phases of the positioning process and their associated tools.
4. The analysis of respondent's suggestions for modifications and improvements to the positioning process and to individual decision tools.

The general purpose of the analysis was to tabulate the expert comments and opinions, to evaluate the applicability of the process and tools against the key criteria, and to categorise expert comments and suggestions. Figure 8(1) illustrates the framework for the analysis, together with the five main sets of criteria that were included in the trial documentation concerning usability and practicality, logic and structure, coverage and emphasis, flexibility and adaptability, and 'other' criteria as suggested by the respondents. First, the indicative comments of the respondents were tabulated. Second, the respondent's comments on the overall features of the process and tools were examined. Third, the analysis considered the specific comments on individual phases of the positioning process and their decision tools. In addition, Stages Two and Three of the analysis included an evaluation of the perceived strengths and weaknesses of the process. Finally, the respondent's suggestions for improving the process and tools were examined and analysed in detail.

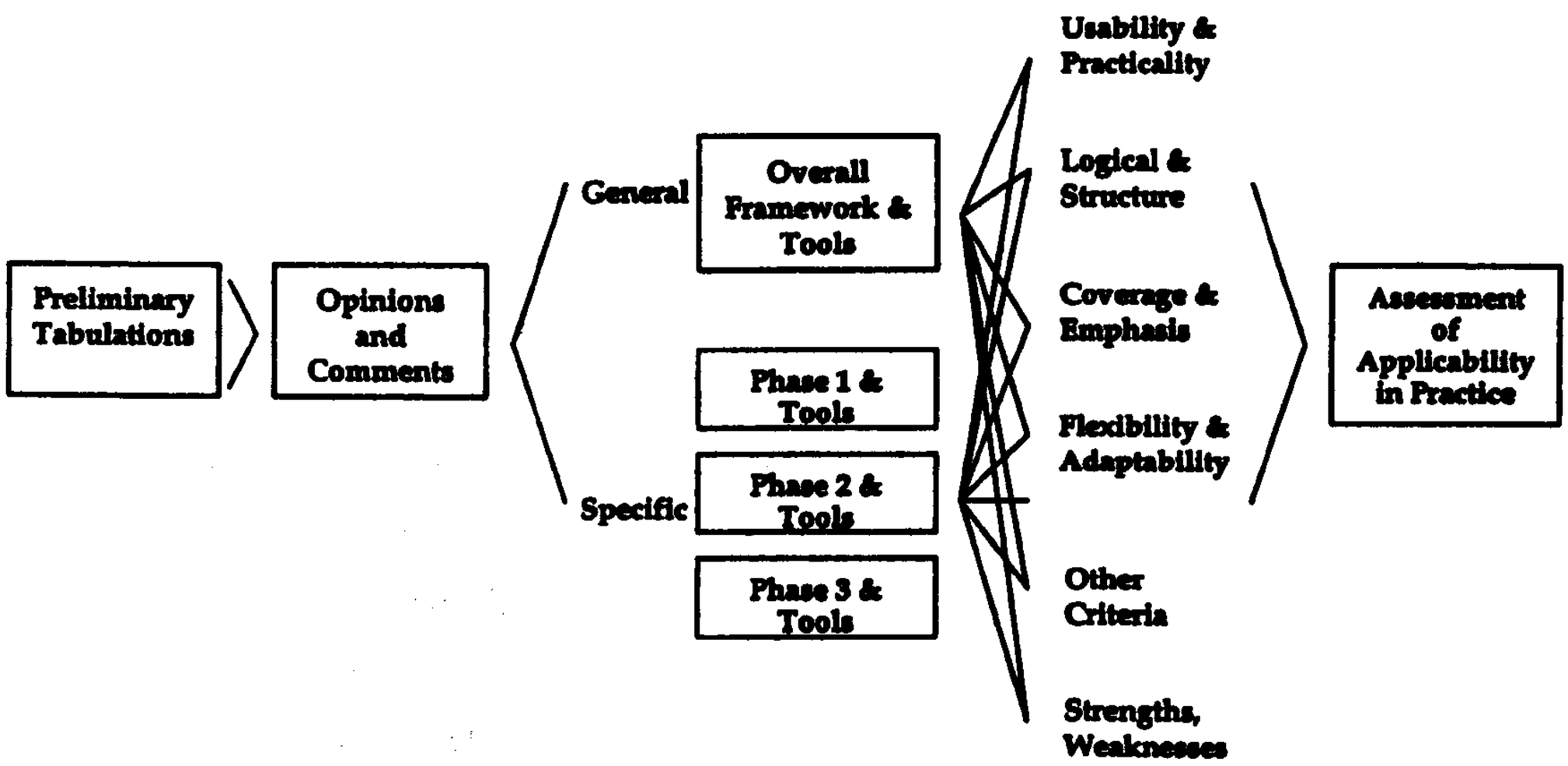

Figure 8(1) The Framework for Analysis

[4] It was essential to ensure that the participants were qualified and experienced FM experts and understood the academic purposes and procedures of the Trial.

8.4 Preliminary Tabulations

The first stage of the analysis of Trial returns was the preliminary tabulation of the comments of the thirteen respondents relating to the sixteen questions as summarised in Table 8(1) below. The four columns of the Table relate to the information collection Phase, the identification and consideration of positioning options Phase, the implementation of selected option Phase, and the overall features of the decision process. The numbers represent the degree to which the individual experts agreed or disagreed with the definitive statements relating to each of the three phases of the process.

Table 8(1) Preliminary Tabulations

	Phase 1				Phase 2					Phase 3			Overall Features				Hypothetical Scenario
	Information gathering				Identification and consideration of positioning options					Implementation of selected option							
ref #	1.1	1.2	1.3	1.4	2.1	2.2	2.3	2.4	2.5	3.1	3.2	3.3	4.1	4.2	4.3	4.4	
O-2	3	4	3	3	4	4	3	4	4	4	4	3	4	4	4	4	Present
O-3	5	4	4	4	2	3	3	3	4	3	3	3	4	5	5	4	Present
O-4	4	4	3	4	3	3	3	3	4	4	4	4	4	4	4	4	Present
O-5	4	4	2	4	3	3	2	4	3	3	3	4	4	4	2	2	Present
E-3	4	2	4	4	3	4	4	4	4	4	5	4	4	5	5	4	Present
H-2	4	4	4	3	3	3	3	3	3	3	4	3	2	3	3	3	Present
P-2	4	4	4	5	3	4	3	3	4	4	4	4	4	4	5	3	n/a
PR-2	4	4	2	4	3	4	3	4	2	4	5	4	4	4	4	4	Past
C-2	3	3	3	4	3	3	3	4	2	4	2	4	3	4	4	-	Future
C-3	3		4	3	4	4	4	3	4	3	4	4	4	3	4	3	Future
T-1	5	4	3	5	5	3	3	5	4	5	3	5	4	5	5	5	Present
T-2	5	3	4	5	5	4	3	4	4	3	4	5	5	5	5	4	Present
T-4	5	5	4	5	4	4	5	5	4	4	5	5	5	5	5	5	Future
Mode	4	4	4	4	3	4	3	4	4	4	4	4	4	4	5	4	

[KEY to Responses: 5-strongly agree, 4-fairly agree, 3-agree/acceptable, 2-fairly disagree, 1-strongly disagree]

The preliminary tabulations are summarised in Table 8(1). The most preferred hypothetical scenario used for the assessment was the 'present' scenario, i.e. *"If FM manager was to review the current FM arrangements now ..."*. Eight and three respondents selected 'present' and 'future' scenarios respectively, with only one respondent selecting the 'past' scenario. The tabulation of scenario selection with the background of the respondents indicated that the 'present' scenario was chosen mostly by the experts who are responsible for day-today FM operations, and the 'future' scenario tended to be chosen by the experts from the those who are in the high level of management and the FM consultancy sector. The selected hypothetical situations seemed to have no significant effects on the comments made with responses being largely consistent across the different hypothetical situations that had been selected. A detailed inspection across the tabulations found that there were no discernable differences in responses that related to the selected scenarios. The tabulation table 8(1) shows that none of participants strongly disagreed with any of the definitive statements about any part of the decision process (score 1). The majority of indicative comments were

within the range of strongly agreed (score 5) to agreed/acceptable (score 3), with forty-nine percent of the total responses rated as fairly agree (score 4). Only five percents of overall comments indicated a fairly disagreed rating (score 2). The results of the preliminary tabulation were therefore encouraging, with confirmation that the positioning process and tools were considered to provide a secure basis for applicability in practice generally. Overall, the perceived applicability of the framework was found to be supported in more than ninety percent of the responses and that in the few instances of lower scores (score 2). This seemed to be caused by the technical terminology or by short or insufficient explanation of the framework and tools in the Trial Pack. This outcome may reflect one of the disadvantages of a survey-trial method.

A statistical analysis of the 'Mode' value of the responses found that the range of comments was between score 3 (agreed) and score 5 (strongly agreed), with the majority of comments on score 4 (fairly agreed) with this mode value reflecting a positive feedback overall. It indicated that the overall features of the process, the Information Collection Phase, and the Implementation Phase received very high scores and were considered to be secure. However, while Phase Two of the process received quite strong support, there were some indications that it may need further development.

The background, position, the organisation and the field of practice of the respondents seem to be relevant to their stated views. It can be noticed that the tabulations showed a relative consistency in the indicative comments made by experts from the same sector, but that the comments of the experts from different sectors were themselves slightly different. The comments from specialised sectors, such as healthcare and education, seemed to be less convinced of the coverage and sufficiency of information collected for their specific FM positioning decisions. The consultancy experts seemed to be concerned with detail concerning the methods for the elimination, comparison and selection of options. Generally, the respondents who were accountable mostly at an operational level seem to be very concerned with the customer, service, supplier and user information and the issue of cost, while the respondents who were responsible for the strategic planning of property and FM focused on the option generation and the selection stages. Overall, the process and tools seem to be more plausible and slightly more highly rated by the strategic FM practitioners than respondents with mostly operational responsibilities.

8.5 The Analysis of Expert Opinions

This section involves the analysis of the detailed expert opinions and comments on the overall features of the positioning process, its three major phases of information collection, option identification and comparison, its implementation and development. A comprehensive summary account of all expert comments is presented in Appendix D, page 320.

Overall Features of the Process

Figure 8(2) illustrates the opinions of the experts on the overall features of the process and tools, indicating that:

- Approximately eighty percent of the detailed responses in this area strongly agreed that overall, the process and tools provided a systematic and logical approach to the problems of positioning FM, and that they were adaptable to different circumstances of use.
- There was reasonable agreed that the process and tools were useful and contained the essential stages of decision.

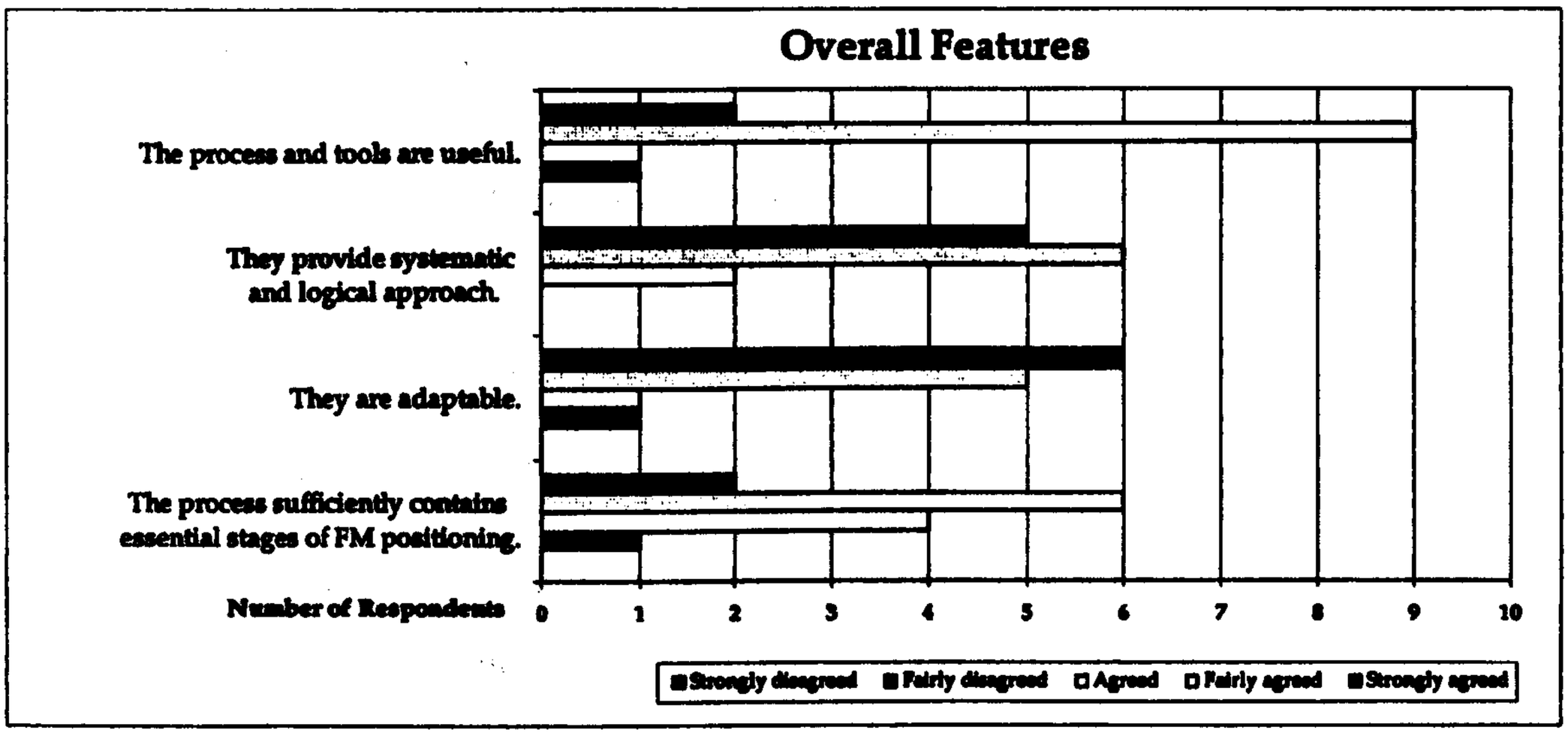

Figure 8(2) Opinions on the Overall Features of the Process

Overall, the comments on the framework were supportive in that it provided a useful method for selecting FM arrangements and had ability to cope with the variety of FM circumstances and context. For instance, :

- The facilities coordinator of an international accountancy company (O-4) commented that *"Overall is a good and useful attempt to put forward a robust framework that will work in the real world."*
- The Thailand head-office facility manager of an international oil company (T-4) commented that *"The tools are flexible with open questions, but the results are then evaluated with changeable criteria, so they are very practical for any given organisation."*
- The manager of facilities management & corporate services of a well-known bank in UK (O-2) reflected that *"It could see this a useful tool across all business sectors. Public sector may be a challenge."*
- A civic centre manager (P-2) stated that *"It is easy to follow and logical/systematic."*

A few reservations were expressed concerning the competency of implementers, the expertise needed to use the method and some difficulties with technical terms used. For instance, :

- The director of infrastructure operations of a major investment corporation (O-3) commented that *"A good conceptual framework. If uses to guide process, analysis, debate and decision making, I would judge that it would be valuable." "The process map contained in one page is useful. The conceptual model would, over time, be supplemented with checklists, correlated results, examples, etc."* However he was concerned that *"If applied too rigorously I would worry, it would only ever be as good as the people who use it."*
- The head of property management of the largest bank in Thailand (T-1) stated that *"This would work in most cases but some modification is still required to fit specific organisational goals, visions and cultural factors."*

Phase One: Information Collection

In relation to the information collection phase, the results of the trial are summarised in Figure 8(3) below, indicating that:

- Most respondents agreed quite strongly that the process and tools provided a systematic instrument for the collection of information, capable of adaptation to different organisational circumstances and requirements.
- There was a reasonable level of agreement that the process and tools would help to collect the essential information for positioning FM and would be sufficient. However, two respondents considered that the collected information might not be sufficient.

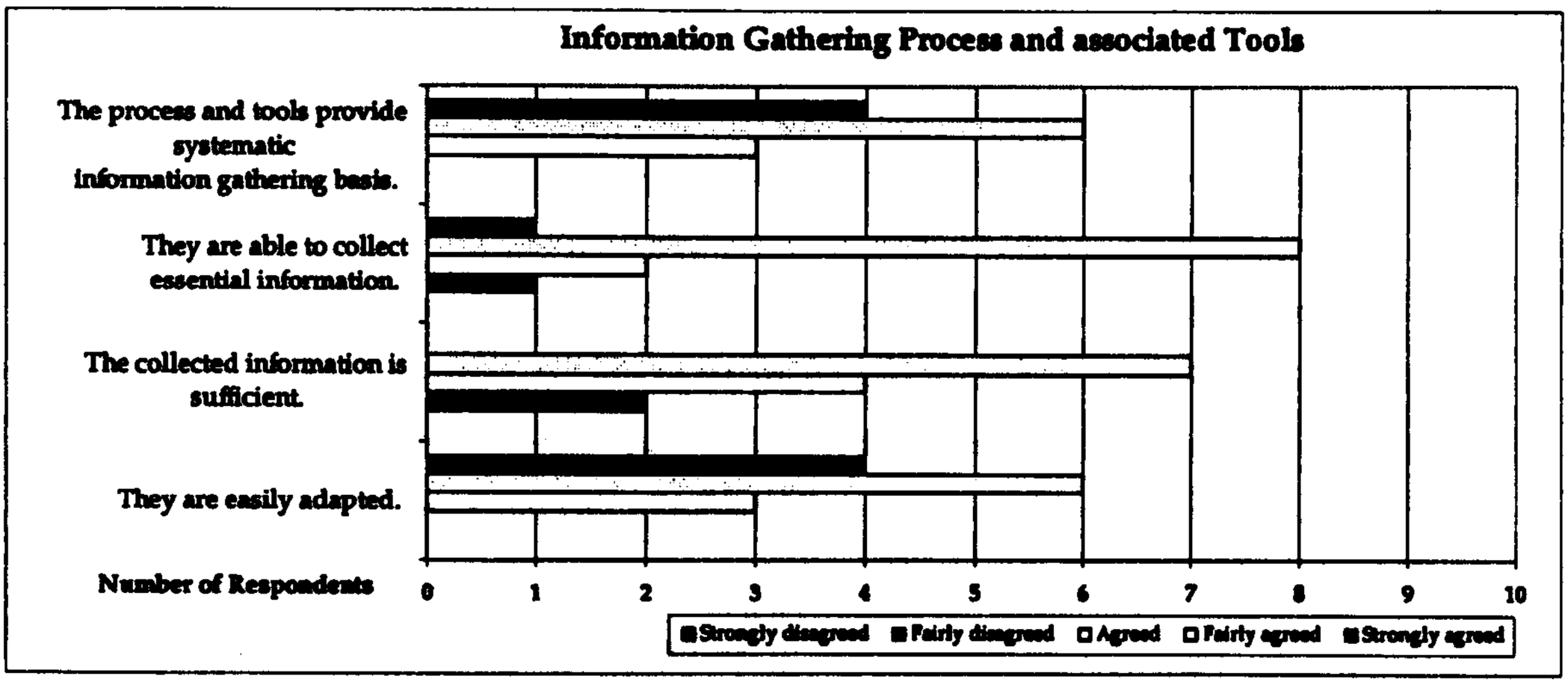

Figure 8(3) Opinions on Phase One

Overall most comments supported the view that the process and tools would be capable of capturing the basic and essential information for positioning FM. Most of the respondents agreed that the method for information collection was flexible enough to be adjusted or modified for dealing with different types of organisations and facilities. For instance,:

- The director of infrastructure operations of a major investment corporation (O-3) commented that *"The key factors seem to be flexible and adaptable."*
- The facilities coordinator of an international accountancy company (O-4) supported that *"Generally it captures all salient points."*
- A FM & PFI consultant (C-3) and the director of works and operations of a NHS hospital (H-2) shared the same view that *"The process appears to be extremely comprehensive."*

There were diverse comments about the specific data required for specific facility types. In the case of the respondents who were dealing with customer-interface facilities, they considered that the process should be able to capture information concerning customer expectations, levels of satisfaction, and service quality, etc. The respondents who were largely responsible for operational FM suggested that more information on service suppliers or partners should be incorporated within the process at this phase. A few respondents expressed concern that in some cases the process might need extra information to generate the most appropriate position for FM.

Phase Two: The Identification and Comparison of Options

Figure 8(4) summarises the opinions that were expressed concerning the option identification and comparison phase of the positioning process. It indicated that:

- Most respondents considered that the process and tools provided useful framework for generating options assisting in their comparison and in the selection of a preferred option.
- They agreed, but to a lesser degree than for phase one, that the process and workdocument 3.1 could help to eliminate the non-viable options, using the suggested criteria. Two of the respondents were not fully convinced that the criteria were sufficient to be useful in their specific circumstances.

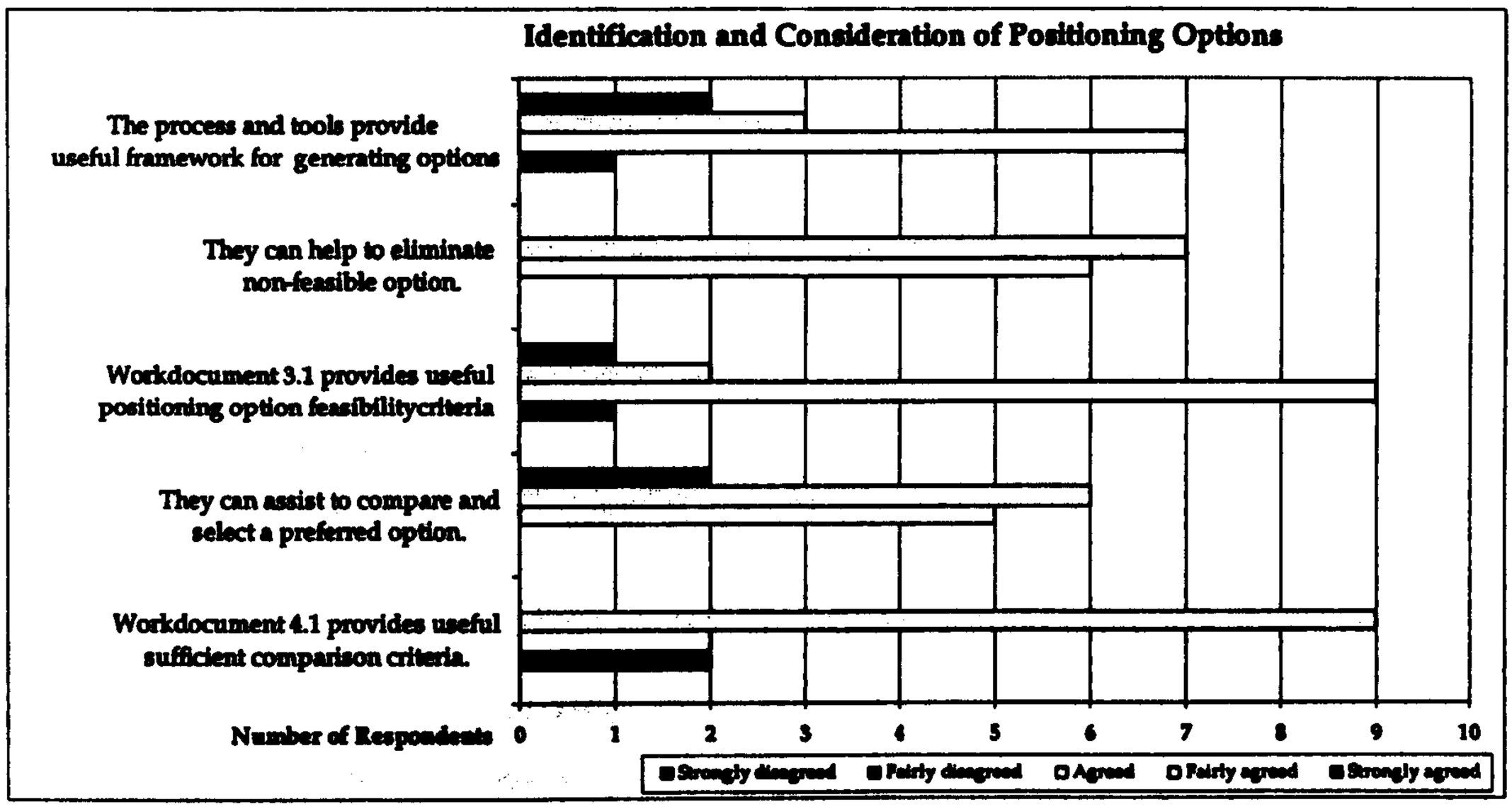

Figure 8(4) Opinions on Phase Two

There was diversity in the comments concerning with the option consideration phase. For instance, :

- The Thailand head-office facility manager of an international oil company (T-4) commented that *"Generally the tools provide help to organisation to determine possible options."* *"The feasibility criteria can effectively filter out the non-feasible options."* and *"The evaluation form is useful and sufficient. The four elements have covered fundamental factors for the considerations."*
- The facilities manager of an UK tobacco group (O-5) stated that *"It will help organisations to realise where there may be gaps in their processes and set up."*

On the other hand, some respondents were concerned that the structure of the phase and tools might be too simplistic and subjective and the criteria might not be sufficiently adaptable to their specific case. For instance,:

- The director of infrastructure operations of a major investment corporation (O-3) commented that *"Conceptually the process makes sense, but there is a need to improve Workdocuments 3.1 and 3.2. The FM profiles (priority and relative criticality) would be valuable if there were known correlation between profile and service models."*

Phase Three: The Implementation and Development

Figure 8(5) summarises the opinions that were expressed concerning the implementation and development phase. It shows that :

- A very strong consensus was indicated by the trial participants that the process and tools could provide a systematic basis for repositioning FM, and that the re-examination process was useful.
- It was agreed that the process and tools could provide a suitable basis for planning the implementations of the selected option.
- Only one participant adopted a 'fairly disagree' comment here.

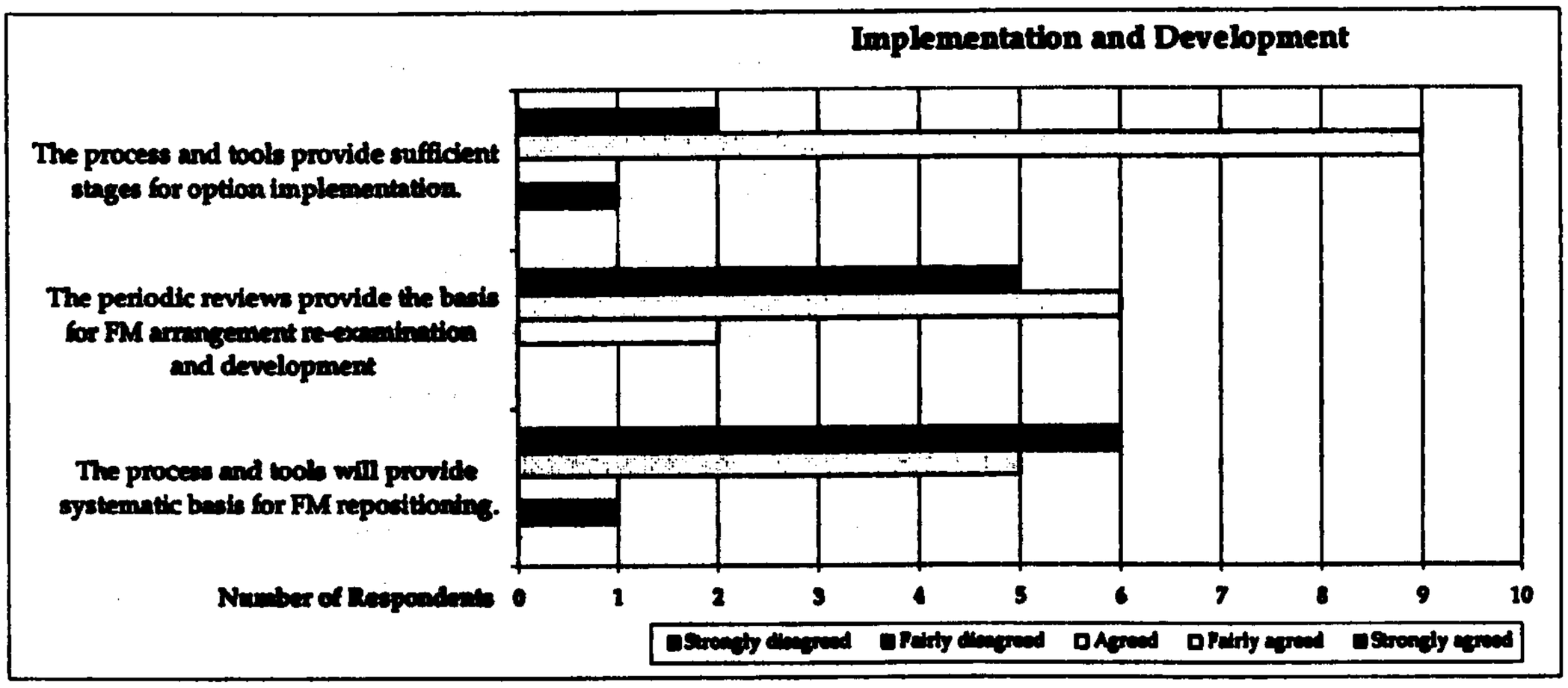

Figure 8(5) Opinions on Phase Three

These opinions were supported by individual comments, most of which indicated that the periodic review was generally considered to be a useful mechanism for repositioning FM and coping with the dynamics of FM practice and its context. However, a few comments reflected the need for a more detailed review process and more explicit guidelines and

methods for helping the facility managers to determine the need for repositioning FM. For instance, :

- The Thailand head-office facility manager of an international oil company (T-4) stated that *"The tools provide necessary stages for the implementation, but the table provided for action plans could be structured differently; more detailed table could make it clearer and easier for the information providers and readers."*
- The director of infrastructure operations of a major investment corporation (O-3) stated that *"At this stage a preferred model or approach has been identified. The key to getting it right is the transition of this into a practical deliverable solution supported by appropriate suppliers/partners. Is there a need for a stage looking at evaluations/selecting service providers?"* and *"Matrix approach balancing strategic and operational is sensible and could be useful. My practical concern would be that the basis for scoring capability to support strategic change might be knowledge of, and satisfaction with current operational arrangements."*

Summary

This chapter has described the specific purpose of the 'Applicability Trial', the trial design, its procedures and questionnaire, and has presented and discussed the test results. In summary, the results were highly encouraging and tended to confirm that the main strengths of the process and its tools were their comprehensiveness, their logical and systematic structure and their capability to support organisations and facility managers to consider and reconsider their FM arrangements holistically and become more aware of the changing environment and context. The positioning process was seen as a valuable system to encourage organisations and FM practitioners to collect and consider all relevant issues concerning FM arrangements thoroughly, to take decisions for selecting an appropriate option systematically, with a heightened concern for future changes. It was also indicated that the process included a few useful criteria to help decision making. A few reservations were expressed with some concern about the complexity of the process, the specific technical terms employed, the needs for relatively high levels of expertise in using the methods and the time required.

So overall, the outputs of the trials provided positive feedback that the FM positioning process and tools were useful and applicable in practice. The information process and tools were regarded as a strong method by most respondents who indicated that they would assist in the collection of key information most effectively. Although it also received positive support, phase two of the process and tools for option consideration, was found to be less convincing than the other parts of the process and required further development. Most

respondents agreed that the third phase of the process for option implementation and development, were useful and applicable for practical use. There were a few indications that some parts of the process and some tools would need further development. So in the light of these test results and the detailed suggestions included in Appendix D, the next chapter discusses the potential improvements that might be made to enhance the strengths and reduce the weaknesses of the process, and suggests practical modifications to the decision framework and its tools.

Chapter 9

Improvements and Modifications

In the previous chapter the method for testing the potential usefulness of the prototype positioning framework was described and the outcomes from the 'applicability trials' were reported. The results confirm that the decision framework and tools were generally considered to be useful, practical, flexible and adaptable. Along with the assessment of practical value, the trial also sought expert opinion concerning any modifications and further developments that might be undertaken to improve the usefulness of the positioning framework and its tools in practice. As a result a number of useful expert suggestion were collected. At this final stage of the research, these inputs were used to improve the framework and tools for practical use.

This chapter is in three parts. First, it reviews the expert opinions and suggestions for further improvements and categorises them into major groups. Second, it examined the relevancy of these inputs in relation to the remit of positioning FM and identifies potential improvements within each phase of the decision process. Finally, it summarises the practical modifications that were made to improve the decision framework and its tools. Figure 9(1) illustrates the structure of this chapter.

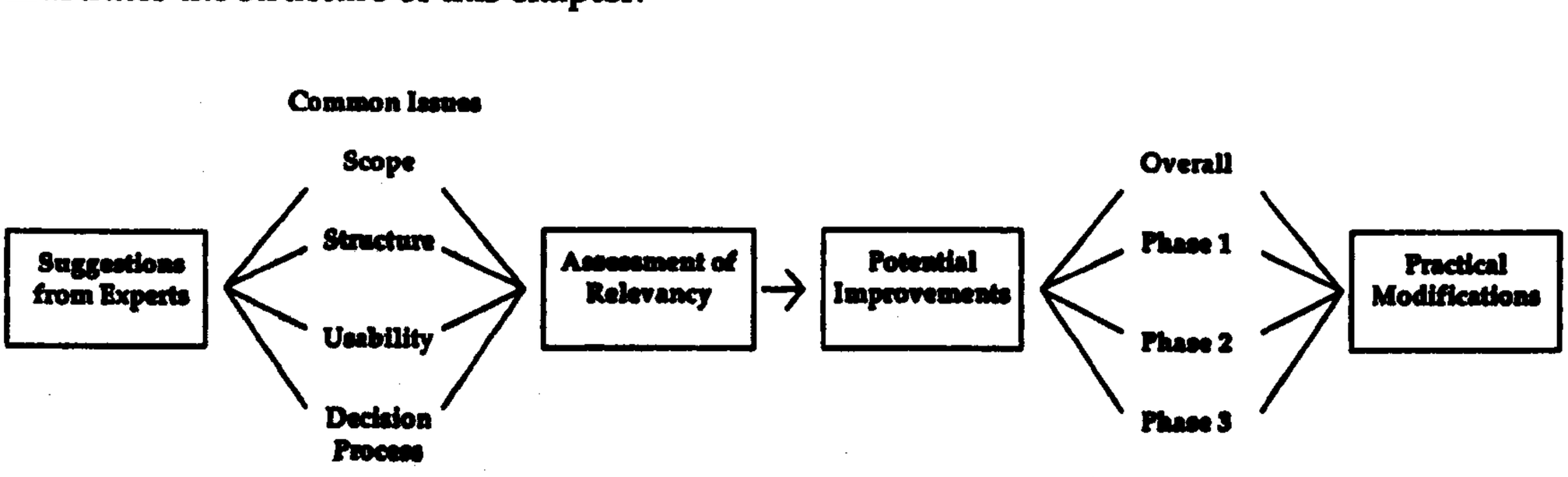

Figure 9(1) Approach for the improving the Framework

9.1 Expert Suggestions

The opinions of the experts concerning further improvements were invited through specific questions in each section of the questionnaire, with a section for general suggestions and overall opinions at the end. Each expert was free to provide suggestions as they felt necessary. The transcript of opinions and suggestions is included as Appendix D, page 320. This section reviews the suggestions that were made and examines their areas of attention.

Overall, Phase Two, the option consideration phase, received more suggestions than the other two phases of the process. It was found that the opinions and suggestions tended to vary according to the background and responsibilities of the individual experts. The suggestions of the experts who were responsible at a strategic management level tended to concern with improving the capabilities of the framework in dealing with overarching issues such as the long-term impact of FM arrangements, their contribution to core business and to sustainability, while those experts who were mainly responsible for operational management tended to be concerned with improving short-term and technical capabilities such as operating costs, facility performance and service supplier delivery. In addition, the suggestions about information requirements and decision criteria tended to reflect characteristics of the organisation and sector within which the experts were currently engaged. Although these suggestions were diverse, to some extent they shared common concerns which can be categorised into four main issues for improvement, relating to the scope, structure, usability and decision process of the prototype positioning framework.

The experts suggested that the scope of the information collection phase should be more extensive with examples of the additional information that might need to be obtained. The additional information related to external issues such as environmental conditions, legal and regulatory requirements and to the market context. Further information of internal factors related to the stated vision and mission of the organisation, its politics and corporate morale, its legacy and branding, its size and relative wealth, stakeholder interests of all kinds, and facility issues such as IT and supporting engineering generally. The experts recommended that the additional scope of information collection might need to be determined on the basis of the unique business characteristics, goals and focuses of an organisation. In the consideration of alternative positioning options, some experts suggested that this part of the process should be extended to include the collection and consideration of detailed operational information such as customer opinion and viewpoints, their expectations, and the level of quality, the costs of services, current service performance and potential supplier capabilities.

The second group of suggestions concerned improvements to the structure of the positioning process as a whole. There were opinions suggesting that some stages and decision tools were so closely interrelated that they might benefit from being consolidated, particularly that stages four and five might be amalgamated, together with their workdocuments for information collection. Some suggested extending, or developing more detail to the process and tools, particularly the option generation, elimination and selection phase and the FM consistency evaluation within the review arrangements stage.

The third group of suggestions concerned how the practical usability of the method could be improved and how any problems associated with actual implementation might be avoided. Overall, some thought that the method should come with more explanation of the FM positioning concept and more detailed instructions for undertaking the positioning process and using the associated tools. Furthermore, it was considered that there should be specific decision tools for demand-supply gap identification, the summation and analysis of viable options comparisons and for the setting up of the review system.

Finally, there were a number of suggestions for the improvement of the second phase of the decision process at a practical level. Some suggested that more use should be made of quantitative methods that include weighting and rating techniques for option comparison and selection. It was suggested that the option assessment stage might become more secure with the use of existing decision support methods and techniques, such as risk assessment analysis, sensitivity analysis, cost analysis, feasibility analysis, etc. Many of the respondents suggested that other or alternative criteria might also be useful for option consideration and non-viable option elimination. Issues and criteria that were mentioned, related to core business relationships and synergy, future developments and flexibility, intangible and welfare benefits, supportability, manageability, serviceability, sustainability, stakeholder and customer impact and criticality, the relative capability of suppliers, technological complexity issues and transition feasibility. The potential applications and limitations of these expert opinions and suggestions are discussed in the next section.

9.2 Potential Improvements

Given the collective suggestions for further improvements that were provided by the 'applicability trial', here it is essential to consider how these may be used to identify the potential areas for improvement to the framework and decision tools, in order to build on the perceived strengths and to reduce or eliminate any weaknesses. While expert opinions and suggestions provided useful inputs to the consideration of further improvements, they are

naturally subjective and are influenced by the focus of each respondent. Therefore, their use needs to be careful and selective, concentrating on those suggestions that relate to generic issues of direct relevance to the remit of positioning FM. The scrutiny of the trial responses point to a number of improvements that might be undertaken at this stage. Four sets of possible improvements were identified; those relating to the positioning framework overall, and those relating to each of its three main phases. Overall, the framework could be improved by revising and simplifying its structure to improve use comprehension, and by rearranging the workdocuments so that they are more compact for use in an effective manner.

The scope and coverage of the information collection phase might be improved by giving more explicit and greater emphasis to business issues on the one hand, and to any specific and special issues that are important to the organisation, on the other hand, identifying and using existing databases where available. The investigation of support requirements and provisions could be improved by the inclusion of a 'gap identification' element to profile and analyse any imbalances in the demand and supply of facility resources and support services more explicitly. In relation to the decision tools, the set of workdocuments supporting stage one and two of the framework, might be further refined to make them more compact, while specific workdocuments for gap identification and the key FM issues and priorities of FM need to be developed.

The trial respondents tended to agree that improvements to Phase Two of the framework should focus on the practical usability of the Option Consideration phase with a more compact process, guidelines for option identification and generation and a more structured system for option selection. The trial results also implied that there may be a need for more flexibility in choosing from the range of general criteria, or in importing other specific criteria for option comparison. Similar flexibility is also needed in the selection of preferred decision methods for option selection.

The results indicated that Phase Three of the positioning process might be improved in two areas. On one hand, the implementation arrangements could be improved by elaborating on the range of objectives and by detailing the normal activities of this stage, perhaps with cross reference to standard project management procedures. On the other hand, the review arrangements could be improved by having a more structured re-assessment process within a strategic planning approach for repositioning in due course.

9.3 Practical Modifications

The general ideas for further improvements in each phase were summarised in the previous section. This section attempts to apply these ideas to achieve practical improvements to the framework and tools in short term. Several modifications including additional elements, simplifications, relocations of sub decisions and other changes were undertaken. These modifications are outlined below:-

1. The addition of a 'specific issue' category within the process of information collection to ensure that particular or unique information of significance to FM arrangements for a given organisation would not be overlooked.
2. A structural simplification to the framework by consolidating stages four and five of the prototype into a single stage – 'Option Comparison and Selection'.
3. Relocating contingency arrangements from phase two to the implementation phase.
4. Redefining the re-assessment process.
5. Simplification, through redesign and consolidation of the workdocuments for investigating facility and support services demand and supply (2.4.1 and 2.4.2), to reduce any redundancy in this part of the process.
6. The improvement of the tool for option identification, generation and elimination through the revision of the evaluation process concerning the viability of potential options.
7. The relocation of the workdocument tool for profiling short-listed FM options to stage four.
8. The addition of new workdocuments were proposed to support the demand-supply gap identification (workdocument 2.3), the FM key issues and priorities identification (workdocument 2.4), the option selection (workdocument 4.2-4.4) and the review arrangement (workdocument 6.1).
9. The inclusion of instruction to users for processing workdocuments 3.1 and 3.2

These modifications have led to a more compact and simpler positioning framework and set of decision tools, with the constituent stages of the process reduced from seven to six stages. The number of workdocuments was reduced from seventeen to thirteen. The flowchart for the positioning framework as simplified and altered, is shown in Figure 9(2) with Table 9 (1) summarising the differences between the prototype and the modified versions of the positioning process. The modified tools are included in Appendix F, page 337.

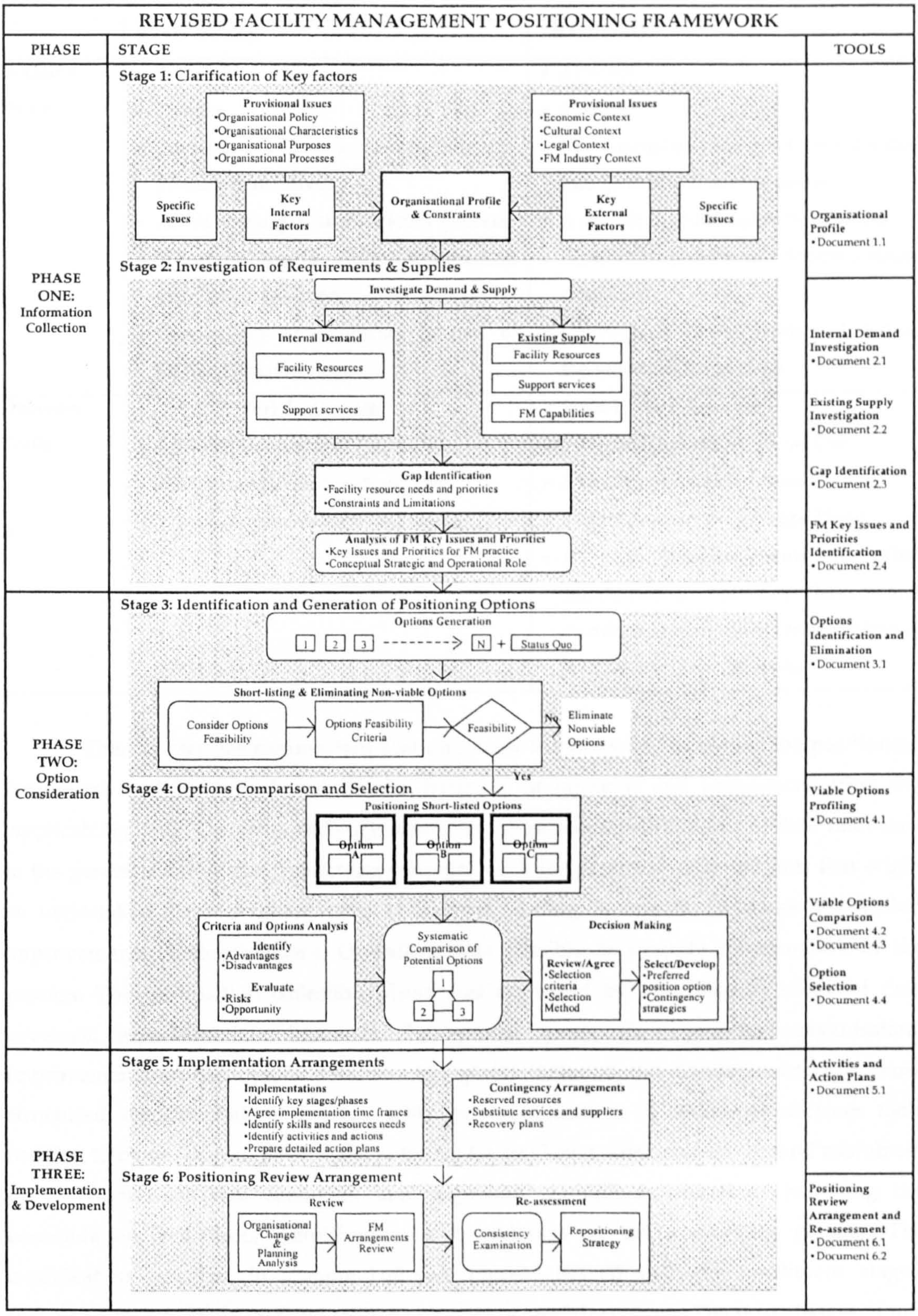

Figure 9(2) Modified Positioning Framework

Table 9(1) Comparison of Prototype and Modified Versions

	PROTOTYPE	MODIFIED
Decision Process	• 3 Phases • 7 stages • Information of key factors collected and presented inclusively. • An inclusive 'gap identification' process. • Separate stages for Option Comparison and Option Selection. • Contingency arrangements as part of Option Selection stage.	• 3 Phases • 6 stages • Key internal and external factors divided into general and specific issues. • A specific 'gap identification' process. • Option Comparison and Selection stages combined. • Contingency arrangements included in the Implementation stage.
Decision Tools	• Total 17 Workdocuments • 9 Workdocuments for Phase One • 6 Workdocuments for Phase Two • 2 Workdocuments for Phase Three	• Total 13 Workdocuments • 5 Workdocuments for Phase One • 5 Workdocuments for Phase Two • 2 Workdocuments for Phase Three • 4 new Workdocuments for Gap Identification, FM Key Issues and Priorities Identification, Option Selection and Review Arrangements.

This chapter has summarised and discussed the ideas for improving the positioning framework and its tools based on the feedback of opinions and suggestions from the 'applicability trial'. Opinions and suggestions were first examined in terms of their relevancy to the generic remit of the positioning concept. Next, the potential improvements that might be undertaken for each phase were considered, leading to specific proposals for further improvements or development. Overall, it was possible to simplify the structure of the process. The information collection phase was improved by extending its scope of data coverage, especially in relation to the specific issues of a particular organisation. Improvements to the option consideration phase included the development of a more structured decision-making process with the identification of additional decision tools needing to be developed. Finally, the potential for implementation and the general usefulness of the framework was examined and improved through modifications involving the consolidation, reduction, simplification and additions to the positioning process. The modifications resulted in a more compact process overall with six constituent stages, supported by a consolidated and reduced number of workdocuments. The final chapter of this thesis will summarise the outcomes of the research, the findings that it has produced, their theoretical and practical implications, and will speculate on the further work and development to positioning framework that needs to be undertaken.

Chapter 10
Conclusions

The concluding part of the thesis summarises the findings, contributions and main achievements of the research and highlights the opportunities for further research and development. The first part of this chapter re-examines the original research propositions, the key questions and practical objectives of the work and summarises the study's achievements overall. This is followed by a review of the research process and its results, reflecting on the strengths and weaknesses of the process that was adopted. Next, the contributions that the research promises to make to theory and to the FM knowledge base are considered, identifying the main areas of potential application. The following section discusses the implications of the research for FM practice and for professional developments in the field generally. Finally, the opportunities for further work and development are examined, through which the positioning decision framework and its decision tools could be extended and enriched through further research.

10.1 Research Objectives and Achievements

The research reported in this thesis was built around three theoretical propositions, as set out in Chapter One on pages 7-8. First, organisations should adopt an appropriate set of FM arrangements that reconciles the generic knowledge and principles of FM with their particular organisational needs and circumstances. Second, in order to support the corporate strategy and operations of an organisation, facility management arrangements need to be

responsive to the specific needs of an organisation within its business context. Third, in order to sustain this support over time, FM arrangements must be reviewed, modified and restructured as organisational requirements change. Each of these three basic propositions was strongly supported by the results of the study. In relation to the first proposition, the study showed that neither the adoption of a standard 'best practice' position, nor the development of a unique 'one-off' solution, provided an adequate or sufficient basis for positioning decisions. The case study investigations in Thailand found that FM practices tended to use an adaptive approach where generic knowledge and global experience were modified and adjusted to meet specific organisational requirements and local conditions. These studies confirm that no single 'best practice' solution should be expected. In relation to the second proposition, the study results confirmed that no single management approach is likely to suit all circumstances, even within the same region, sector, culture and context. These results imply that the importance of 'best practice' management models and exemplars may have been overstated in the past. In relation to the final proposition concerning the need for FM arrangements to be reviewed, modified and restructured as organisational requirements change, this was clearly and consistently demonstrated throughout the study. The research findings indicated that the purposes, degrees and extent of change varied widely from organisation to organisation, but that the frequency of change was generally far greater, in all of the organisations studied, than had been anticipated at the outset of the research. Management measures for the continuous repositioning of FM arrangements would arguably appear to be as important, if not more important, than the initial positioning decisions. The issues of continuous change management arrangements, annual adjustments, frequent repositioning with the periodic restructuring of FM practices, may be the dominant model for future developments.

These initial research propositions give rise to three key questions that needed to be addressed in order to achieve the four practical objectives of the study, as summarised on page 8. How should the policy, scope, role, function, and practice of FM be determined, structured and positioned to support the needs of a given organisation? What key factors need to be considered when selecting and positioning FM support arrangements? How should FM practices be positioned and repositioning overall? With hindsight, a further question specifically concerning the impacts and relative importance of the key factors on organisational performance, would have enabled the research to probe the decision of FM arrangements in more detail. The research results, as reported in this thesis and in the following section 10.2, has produced new insights and knowledge into the dynamics of FM support arrangements with detailed answers to each of the key research questions that were raised at the outset of the study. Overall the research has put in place a comprehensive and

secure theoretical and practical basis for positioning and repositioning FM. All of the practical objectives of the research have been achieved. The research has produced:

- A definitive problem statement, clarifying the area for research, its component parts and structure.
- A comprehensive structured summary showing the variety of FM remits that are currently adopted.
- A new conceptual model of the generic FM positioning process, backed up by a comprehensive review of published material and expert opinion.
- Novel insights and understanding of the dynamic set of relationships linking organisational change, organisational support requirements, business operational strategy and changes to FM support arrangements over time.
- New empirical findings from the investigation of the key decision issues and priorities of FM practice within the context of Thailand, adding to empirically based knowledge in the field.
- A theoretical and practical basis for positioning FM arrangements, supported by the literature review and empirical studies.
- A prototype decision framework providing a systematic method for positioning FM, with associated decision tools, criteria and workdocuments.
- A novel 'Applicability Trial' methodology for testing the hypothetical potential of the prototype decision framework, together with the results of the first field trial and details of subsequent modifications and improvements.
- Original Knowledge Base material relating to FM generally and FM support arrangements in detail.

10.2 Research Process and Results

The research process that was adopted for the study had four main stages, as illustrated in Figure 1(1) on page 9, focusing on Conceptual Development, Empirical Investigations, Decision Framework Development and Testing, and Improvement and Applications. This process incorporated generic studies on the one hand, together with specific investigations on the other hand. These generic and case specific components were undertaken in a cyclical fashion, where generic knowledge concerning FM informed the basis for the specific case investigations in Thailand. The empirical results then in turn, informed and supported the further consideration of the theoretical basis for positioning FM. The research process was therefore structured around a 'generic-specific-generic' framework for knowledge development and application (Nutt, 1999). However, it should always be

remembered that feeding back insights from specific case studies to the general knowledge base can give rise to some difficulties, when findings seem to be specific to a particular country or region and might not be applicable elsewhere. The research began with the clarification of the general area of study leading to a definitive problem statement and a set of generic questions to provide a clear and unambiguous focus for the research. This was followed by a wide ranging literature review to search for and examine all potentially relevant and available knowledge, theories, practices, ideas and published opinions concerning the issues and questions of the research. Selective findings from this review informed the development of a preliminary conceptual model of FM positioning issues and areas of decision and concern, which concluded the first stage of the research. The second stage of the research process involved the collection of empirical evidence and insights into the FM positioning process from five specific case investigations in Thailand. The information gained from these investigations was analysed and compared across the five case studies, leading to a systematic consideration of the possible generic interpretation and implications of the specific set of results. The knowledge gained from the empirical investigations and the cross-case comparisons was used during the third stage of the research process, to refine and add detail to the theoretical and practical basis of the conceptual positioning model and then to develop the prototype positioning decision framework and its associated decision tools. In the fourth stage of the research process, the applicability potential of the positioning decision framework was examined and tested against expert opinion, with the results of the trial leading to some modifications and improvements. Finally, the generic outcomes and conclusions form the research process as a whole were considered, as summarised in this chapter. The main results from each part of the research process are highlighted next.

The literature review found no evidence of research having been undertaken into the problems of positioning FM specifically. It confirmed that positioning arrangements tended to be selected and undertaken discretely and that a strong case could be made for a more systematic approach to assist and underpin the unstructured and informal ways in which positioning decisions are taken currently. The review highlighted the need to understand the dynamic relationships linking FM practice to organisational characteristics and their context. It indicated that there were no secure and comprehensive methods to assist organisations and their FM teams to consider their business support environment and to select their facility management arrangements and practices. Based on the published information, ideas and documents, the research developed a definitive summary of the FM services remit, as illustrated in Figure 2(1) on page 29 and as described in Chotipanich (2004). This structured summary shows the range of alternative sets of responsibilities and scope that are currently included in the remit of FM practices. It also suggests that FM practitioners should be aware of

'other' responsibilities and services that might be required in the future due to changes in work processes, workplace characteristics, organisational requirements and public expectations. It should be remembered that the literature review focused on the key issues that were considered to be of direct relevance to the areas of research. With hindsight, other theoretical areas of study, such as the strategy formulation process, service operations management, organisational change management and decision support systems, might have received more attention.

Given the limited amount of published material in the area of study, the research set out to develop a secure conceptual foundation to support the investigation of all recurrent factors that might influence FM positioning decisions. Conceptually, FM arrangements should be affected by both internal and external factors, internal influences due to an organisation's set of support requirements and external influences arising from the locational, social, legal, economic and market context. Furthermore, it is to be expected that FM arrangements may need to be adjusted from time to time as these internal and external factors change. Given these theoretical axioms, a five-stage process model for positioning FM was proposed initially as illustrated in Chapter Three, page 58. The process started with the investigation of organisational requirements and the examination of existing of facility provisions, followed by an analysis of the 'gap' between supply and demand, which in turn lead to a search for alternative FM support arrangements, option evaluation and choice, and finally the implementation of the selected FM position. After a thorough and systematic review of commonly used descriptors, the conceptual process model was developed further around eight selected attributes, with which any given set of FM arrangements can be characterised. This conceptual position was used to underpin the case investigation methodology and was subsequently developed further in the light of the empirical results from these studies.

The case investigations covered, examined and analysed six situations of FM change and eleven different circumstances of FM arrangements. The results indicated strong linkage between the selected FM arrangements and key internal factors, including the stage of organisational development, organisational policy and structure, corporate culture, business operational strategy and stakeholder interests. Key external factors affecting FM arrangements included local economic conditions, the local FM skill market and the legislative and cultural context. The study indicated that by far the most significant internal factor that impacted on FM support arrangements was organisational policy. This was a consistent finding in all cases. The most significant external factor influencing FM support arrangements in the Thai context was the local FM skill market. This affected the options for FM service delivery, which in turn impacted on FM support arrangements generally. It was apparent that the changes to any of

the internal and external factors tended to induce changes to the FM support arrangements. The case study results highlighted six major recurrent areas of decision concerning FM arrangements and changes to them; the assessment of current support arrangement capabilities, the review of facility resource availability (supply) and organisational requirements (demand), estimating future support service needs, defining the purposes and determining the extent of the changes to be undertaken, and the ways in which the implementation of change are to be effected. Ten recurrent decision issues that all organisations should consider when positioning their FM arrangements were identified. The relative priority given to each of these decision issues varied from organisation to organisation depending on the characteristics and constraints of the particular organisation, as shown in Table 6(3) on page 146. It should be remembered that these ten decision issues do not constitute an exhaustive and definitive list, individual organisations might need to add their own specific issues or criteria.

The empirical findings and the insights gained from the case studies, together with the results of the cross-case comparisons, were used to develop the initial conceptual model of the FM positioning process. They were generalised and applied in the development of the prototype positioning decision framework, as described in detail in Chapter Seven and illustrated in Figure 7(2) on page 160. This positioning framework has three general phases and seven specific stages of consideration and decision. The three general phases are information collection, option generation, consideration and selection, and finally option implementation and subsequent review. To facilitate and support the process, a set of workdocument decision tools was developed. The framework was intended for multi-purpose use, including the initial establishment of FM arrangements, the assessment of an existing FM position and its capabilities, and the consideration of repositioning possibilities as circumstances change. As discussed in Chapter Seven, the framework and its associated tools were not intended to be prescriptive, but adaptive and flexible to adjust to the specific circumstances and requirements of any given organisation or sectors.

In the final part of the research process, the potential application and use of the decision framework was tested and assessed through an 'Applicability Trial'. The testing of theoretical ideas and conceptual frameworks generally and the systematic scrutiny of management models and FM methods in particular, have been neglected in the past. The 'Trial' methodology that was developed to test the framework provided an opportunity to address this issue, is an important output of the research in its own right. The outcomes of the trials were highly positive and indicated that the framework and tools were thought to have both practical and generic value in assisting FM practitioners to propose appropriate support

arrangements for a given organisation, particularly in changing organisational circumstances (see Appendix D on pages 320 to 330). The strengths of the framework were perceived to be its comprehensiveness and its logical and systematic structure for information collection, option appraisal and decision process overall. The need for further work on the option consideration and appraisal stages, and the detailed development of the decision support tools, was suggested by some of the experts. The generic potential of the decision framework and tools was consistently supported by the opinions of senior practitioners, both in the UK and in Thailand. Following the trial, modifications and improvements to the framework and its tools were undertaken, based on the opinions and suggestions of the experts. The decision framework was revised into a more compact format as detailed in Chapter Nine and summarised in Table 9(1) on page 200. Additional components concerning 'specific issues' were included within the first stage of the framework to ensure that essential information relating to the particular concerns of their organisation and its business operations would not be overlooked. Examples of the specific issues mentioned were customer profile, organisational politic and business context. The process framework was simplified by a reduction from seven to six stages, through the amalgamation of the interrelated 'option comparison' and 'option selection' stages. Contingency arrangement considerations were moved and included within the implementation stage. In addition, the number of workdocuments was reduced from seventeen to thirteen through a process of consolidation.

Overall the research process and its methodology has produced highly satisfactory results within the resource constraints of a Ph.D. investigation. The research design proved to be useful in answering the 'how' and 'why' questions that were raised by the problem issues. The adoption of a qualitative case study approach enabled the researcher to gain valuable in-depth information of a relatively unexplored area of research as intended. However, with this approach it was only feasible to investigate a small number of cases. Despite this limitation, the approach was able to produce useful empirical evidence that supported the initial theoretical basis of the study.

The semi-structured interviews in the case investigations were found to be of practical value in collecting in-depth information, concerning organisational policy and priorities and qualitative information about FM arrangements, practices and priorities. With a well-structured questionnaire pro-forma, the researcher was able to obtain facts and opinions concerning FM arrangements and the reasons for change decisions. The face to face interviews allowed the researcher to clarify the questions with the respondents, to probe more deeply when unexpected answers or information was produced, and to cope with the variance of cases, the different levels of management and interviewee types. Since FM is a relatively new

development in the country, with rapidly evolving practices, collecting the information that was needed for the study was a relative difficulty undertaking, particularly within the local culture which tends to be tolerant and not openly critical. Financial data was especially difficult to access. In addition, it was very difficult to obtain 'hard' information about FM practices in the past, since most organisations did not retain written records of their FM arrangements. It was also found that the semi-structured interview approach was less effective in collecting information about external factors, particularly the cultural issues which were a very sensitive and subtle matter. Here, future research will need to develop specialised methods to gain an in-depth understanding and to assist in the investigation of how the cultural context can be specifically related to FM arrangements.

In interpreting and analysing information gained from the semi-structure interviews and the supplementary documentation, the research adopted a mixed approach that combined a number of qualitative analysis techniques, as suggested by various authors and discussed in Chapter Four on page 77. The research questions and their theoretical framework were found to be very useful in sorting and coding the case study information, but the process was time consuming. This research relied largely on qualitative information, so the interpretation of the results of the analysis may seem to be rather subjective. In future research, more extensive and quantitative questionnaire information and analysis might be obtained to verify the results and their interpretation.

The 'Applicability Trials' proved to be a very interesting and useful method for testing ideas, new management concepts, or proposed novel approaches such as the FM positioning decision framework, at an early stage. There might be some weaknesses in adopting this type of approach that uses a questionnaire format, since the trial is then largely uncontrollable and is reliant on the participants understanding of the questions as asked and their subjective opinions. To overcome these potential weaknesses, the research adopted a relaxed timeframe for the questionnaire reply, and used only highly qualified and knowledgeable FM experts from various sectors. The complexity of the trial questionnaire probably contributed to the limited number of thirteen responses. However, the results from the trials were found to be informative and useful for assessing the applicability of the developed framework and tools at this early stage of development before 'real world' testing. It is apparent that a larger number of expert opinions and a wider variation of the participant groups and countries would have provided a more secure database for comparison and verification. Overall as mentioned earlier, the testing of theoretical ideas and conceptual frameworks during this research could, in itself, provide a distinctive contribution to the development of the FM knowledge base and its methods.

10.3 Implications for Theory and Knowledge

Overall, the findings of the research have contributed to the development of a secure and detailed theoretical basis for arranging FM support that has not been fully addressed in the past, providing a tested decision framework for considering what might be the most appropriate set of support arrangements, and what might not. The research output provides a theoretical foundation from which to integrate a number of important fundamental positions for FM that have been discussed earlier, particularly the business support environment approach (Green, 2004), the resource management approach (Nutt, 1999; 2004) and its developments (Grimshaw, 2003; Then, 1999), with a variety of generic models (Barrett, 1995; Atkin and Brooks, 2000), the support service approach (Bennett, 2000), the service operations management approach (McLennan, 2004), and other valuable theoretical categorisations for FM (Price, 2004; Kaya and Alexander, 2005). This opportunity that the research has created for the partial integration of a number of respected but different theoretical FM positions, could be a significant outcome from the study. It also begins to provide a theoretical position from which applies the concept of a 'resource platform' for aligning organisational support arrangements to meet their dynamic corporate requirements and employee and customer needs, considering support services as a unified distinctive set of functions within its own management structure and systems. Four major implications for the development of facility management theory and its knowledge base are discussed below, relating to the theoretical basis of organisational support, external constraints and opportunities, facility management dynamics, and operational and strategic management.

Organisational Support

The findings of the research should make a significant contribution to the developing knowledge base within the general field of 'support management'. The research results confirm that organisational characteristics have a strong influence on FM arrangements and practices. This was demonstrated in all of the cases that were investigated. Despite a general consensus that organisational requirements are the starting point for determining FM support arrangements, both practitioners and academics seem to be undecided on how this linkage between demand and supply might be practically achieved. Support management arrangements must, at the very best, be compatible with the specific requirements of a particular organisation, acting to reduce any facility and service constraints to its business operations. Appropriate support management arrangements can also contribute positively to organisational efficiency, work productivity, business flexibility, property performance and use value improvements (Nutt, 2004). Organisational policy was found to be the singly most

important factor that effected the scope and level of support requirements and the selection of FM arrangements. A clearly stated and documented organisational policy can provide a secure starting point for the consideration of the scope and priorities of FM support arrangements and the management approach that should be adopted. On one hand, where organisational policy makes explicit reference to the support environment that it requires, including the consideration of its resource and service base in policy terms, then this can be interpreted and used to guide the development of FM policy structure and practices. On the other hand, an organisational policy that excludes the support environment from its concerns at a policy level, will reduce the likelihood that its support requirements are properly reflected in the FM support arrangements that are adopted. This implies that communication and understanding between an organisation's business management team and the FM team needs to be established formally as part of the management structure overall, on a two-way communication basis. The research results demonstrated the significance of this issue and implied that linkage between organisational policy and FM policy was an important area for more detailed consideration. Two aspects need to be addressed. First, organisational policy documentation should include a section on the support environment and how in principle, it should be managed. Second, FM policy documentation should be considered and developed in a more formal way, linked to organisational policy at corporate as well as operational levels of management. Overall, organisational policy needs to be interpreted in relation to its requirements for business support and should be reflected explicitly in formal FM policy documentation. Through measures of this kind the theoretical basis of 'support management' could be advanced, with FM policy, strategy and priorities linked to organisational policy, business strategy and requirements more directly in the future.

Constraints and Opportunities

FM practices need to respond to the influences and impacts of all of the key factors that were identified during the research, with both 'external' and 'internal' issues being considered. The research results indicated that, with the exception of the FM skill market and local service supplier availability, external factors and influences tended to be insufficiently considered. Where there was some slight indication of external factor consideration, then this tended to have been undertaken informally and indirectly. There was clear evidence that the local FM skill market and service suppliers had a direct impact on an organisation's options for service delivery in all of the cases studied. In contrast there was no clear or consistent evidence from the empirical studies that the FM remit and its responsibilities had been seriously considered in relation to the cultural, community, environmental, legal and other 'external' issues. The case studies indicated that external factors tended to have some direct

impacts on organisational policy and business operations, which in turn may have indirectly influenced FM requirements and arrangements, but that this was not addressed explicitly by facility managers in most cases. It should be remembered that the case investigations were undertaken in Thailand and that case studies in the UK, USA and Australia might produce quite different results, particular in relation to the impact of legislative and environmental issues on the FM positioning process. Finally, it should be mentioned that while the types and degrees of impact of these external factors on FM may vary within different countries, business sectors, local economies and cultures, a secure theoretical basis for the consideration of external factor impacts has yet to be developed. In addition to the impacts and constraints of external factors, insights into the opportunities that FM can offer to the local community and its services market should be further explored.

Facility Management Dynamics

One of the major sets of theoretical implications of the research relates to the extent and rate of change to FM positioning that was discovered and to the important insights that the empirical studies provided concerning the changing purposes, patterns, characteristics and priorities of FM practice over time. As expected, it was found that the changes were undertaken generally as or when FM became less capable of providing suitable support to satisfy an organisation's current or planned operations and needs. As discussed earlier in Chapter Six, changes to FM arrangements originated from one or a combination of four primary generic sources; organisational change, changes to business operations, contextual changes, and internal changes to FM practice. The scale and degree of change tended to be related to the extent of organisational change generally and particularly to the need to adjust the balance between FM operational and strategic support capabilities. Within the cases studied, the degree of change ranged from minor adjustment to radical restructuring. Extensive degrees of FM change tended to result when changes occurred across all four of the generic sources, while modest degrees of FM change commonly involved self generated incremental adjustments and improvements to FM practice arrangements that were not necessarily a consequence of any contextual, organisational, business or contextual changes *per se*. Between the extremes of 'extensive' to 'slight' degrees of change, the research developed the basis for a theoretical framework for considering the combinational circumstances of FM dynamics as summarised graphically in Figure 6(4) on page 154. The 'Origins of Change', as clarified in section 6.4, has helped to develop a theoretical framework for considering the extent of future changes that may be required and the review of the level of FM change that should be undertaken in any given circumstance and at any point in time.

The cross-case comparisons highlighted six primary purposes for changing FM arrangements; to support new organisational policy and structure, to support new business strategy and work operations, to support facility acquisitions and developments, to achieve operational improvements, to support internally modified FM purposes and to adjust FM operations. These changes were classified within one of six different degrees of change, ranging from radical reposition to minor positioning adjustment (see Table 6(5) on page 149). An organisation needs to select an appropriate degree of change that best suits its circumstances and context. Theoretically, changes can be undertaken proactively or reactively in relation to organisational, business or contextual change. They may also be undertaken in-parallel, through a stepped approach. The case investigations showed that in practice, changes tended to be implemented in one of these three ways, through proactive management, reactive management and through changes undertaken in-parallel with organisational change. The implementation of changes tended to depend on the planned timeframe for organisational change with the speed of implementation relating to the relative criticality of FM support to organisational operations. This implies the need for a system to monitor and detect imminent changes so that organisations are able to anticipate and respond to both planned and unplanned changes more effectively.

Operational and Strategic Management

The research results clearly indicate the need for a shifting balance between operational and strategic management capabilities as organisational circumstances and requirements change. Organisations give emphasis to operational support functions when they are in a relatively stable stage of development, within periods of low-change or incremental adjustment. On the other hand, strategic support functions have high priority when there are turbulence circumstances, periods of major organisational change, or when there are significant changes to business operations or to the market environment. The ability to adjust the balance between the operational and strategic emphasis and priorities of FM should therefore be seen as a crucial component in the positioning and repositioning process. Unplanned, unpredictable and uncontrollable changes give rise to high levels of organisational uncertainty which tends to demand particularly responsive and flexible forms of strategic support, backed up by secure contingency arrangements. However, the case studies showed that after a volatile period of rapid or significant change, organisational priorities may be readjusted back from strategic to predominantly operational concerns. So securing an appropriate balance and maintaining a consistent alignment between the specific operational and strategic business needs and the operational and strategic support capabilities of FM as circumstances change, should be a central concern of the positioning process. This

concept of 'support consistency' was developed by the research, leading to a matrix of alternative FM change strategies and positions, as summarised in Figure 6(5) on page 156. Here the results of the research may argue for a rather fundamental shift in the paradigm that is commonly adopted when considering the operational and strategic aspects of FM. Normally, it is recognised that the provision of constant, secure and reactive operational management support is the primary function of FM, and that proactive strategic support needs to be provided occasionally, as and when required. It can now be argued that the simple distinction between 'strategic and proactive' and 'operational and reactive' positions is non-dynamic and insufficiently subtle to face the realities of FM practice, and that continuous adjustments between operational and strategic capabilities are required to support changing organisational needs.

A new theoretical basis for linking operational and strategic positions in FM needs to be established therefore, to permit a fluid and flexible change of emphasis between operational and strategic management functions as organisational and business dynamics dictate. It has been suggested that FM support arrangements should be focused on the characteristics of the 'operational strategy' of an organisation rather than on separate operational management and strategic management measures as at present (Nutt, 2004). This notion of 'operational strategy' could provide an important theoretical position from which to build more effective links between FM's own operations and strategy to the corporate business strategy of an organisation. This is a potentially significant area for further theoretical consideration, research and development.

Overall in addition to the development of the FM positioning concept and the positioning framework and decision tools the research has added to facility management theory and its knowledge base in a number of areas. The results promise to contribute to theoretical developments that include:

- The integration of established conceptual positions particularly those relating to the business support environment, resource management, support services and service operations management.
- The theoretical basis for linking demand and supply between changing organisational requirements and responsive facility management provisions.
- The theoretical basis for the consideration of external factor impacts, their constraints and opportunities.
- Positioning analysis, measurement and evaluation.
- FM dynamics, repositioning and change management.

- The basis for operational strategy formulation.

10.4 Implications for Practice and Application

From the outset, the research had clear practical objectives concerning the subsequent use and value of its results and outputs. The promise of practical benefits for the short term is particularly important in developing countries such as Thailand. Four specific areas of implication for FM practice arising from the research should be highlighted.

Practical Applications

The main contribution of the research for practice has been the development of a tested decision framework for positioning FM, supported by the knowledge gained from the case investigations, the cross-case comparisons and the expert opinions of the 'applicability trial' participants. Overall, this decision framework will help FM practitioners to review their current management arrangements, to identify and select a more appropriate set of FM arrangements and to reposition their FM practices if necessary. The positioning framework is intended to assist, but not to replace, the ways in which discussion, evaluation and professional judgement are currently made. It should not be considered as a prescriptive process that is to be followed in all cases and under all circumstances. The framework will however, enable facility managers to use a more systematic process for collecting essential information, identifying key issues and options, and should encourage a more thorough and critical examination of alternative FM arrangements in a rigorous way, prior to implementation of any change. The implementation of the decision framework in 'real world' situations will be a major priority for further work and development.

Policy Documentation

The research has clarified and profiled the key components and steps in the collection of essential information for the generation of a practical database to inform positioning decisions in a structured and systematic way. Second, given the proven importance of the set of linkages between organisational policy and FM arrangements as mentioned earlier, the research results suggest that the basis of FM policy and the remit and responsibilities of FM practice, needs to be documented in a more professional manner. Without authoritative FM policy documentation that is equivalent to normal corporate policy documents and business strategy statements, a direct practical link between organisational requirements and FM support provisions will probably continue to remain obscure. Furthermore, FM position

documentation is essential to ensure that changes to organisational policy are detected and then reflected in repositioned FM arrangements and practices as appropriate. So documentation is essential to establish secure linkage between an organisation's policy and its FM policy, securing a foundation for understanding, mutual recognition and communication between core business management and facility support management at a senior level. The documentation will need to clearly state the practical goals and objectives of FM, its policy, strategy, plans, programmes and performance criteria. Moreover, the documentation will need to prescribe the basis for alignment, evaluation and subsequent adjustment, modification or repositioning, as and when required. This development of FM policy documentation should lead to the improvement of 'demand-chain' coherence (Nutt, 2004), where the changing needs for organisational support can be reconciled more closely with the management support systems.

Change Management

The third practical implication of the research will result from a more realistic and detailed understanding of the factors that can induce change to FM support arrangements. In order to become more responsive to changing organisational priorities and requirements, FM practices need to be versatile with continuous adjustments backed up by practical contingency arrangements. The research results have confirmed the expectation that a given set of FM arrangements is unlikely to be able to support the diversity of organisational requirements in different circumstances and at different times. It indicated however, that between times of major change, more frequent minor changes than are commonly anticipated might be required for continuous adjustment and re-balancing of priorities. Given this dynamic context, FM practitioners should be aware that a flexible response to rapidly changing circumstances will be needed, with the adoption of a more agile management approach generally. In practice, continuous monitoring procedures and periodic review arrangements may need to be put in place formally, to help FM practitioners to become more aware of ongoing, proposed or probable changes in organisational policy and structure, to alert them to the introduction of new business strategies and work operations, and to provide 'intelligence' information on changing market conditions. In addition, measures that would give early warning of impending changes would give FM practitioners an opportunity to act more proactively within the change management processes. FM practitioners need to have systems in place that prepare them for unexpected changes with contingency arrangements to extend management options, within the positioning process with which to face unpredicted circumstances, should they arise. With arrangement such as these, consistency of support management can be retained throughout the organisational lifecycle. However, it should be remembered that the

frequency and degree of change tend to vary widely from organisation to organisation, so any change monitoring systems and period reviews will need to be arranged in relation to specific organisational circumstances.

Extending the Remit of FM

Another implication for practice relates to the clarification and reconsideration of the FM remit. The research has provided a generic list of the range of services that FM might cover, Figure 2(1) on page 29. As discussed throughout this research, the FM remit should be selected to meet the specific requirements of an organisation, and that FM practitioners need to be aware of other possible FM services. This implies that in practice the remit of FM should not be limited by the current list of services adopted generally, but should be ready and flexible to develop additional services as needed by a particular organisation. The application of the framework and its tools will help practitioners to be aware of and differentiate, between the range of operational needs due to different organisational policies and requirements and different business strategies, and priorities, within a wide variety of facility types and customer-interface situations. As work patterns and workplaces change, it should be expected that the FM remit might also need to change and that new services might be needed under FM umbrella. For example, new services such as self support arrangement, event management and work-life balance support are now commonly included within the FM remit (Jones, 2000; Reeves, 2000; Roberts, 2004; Nutt, 2004). In addition, the potential scope of FM responsibilities could be extended to cover larger scale facilities such as public infrastructure, community services and urban facilities (Roberts, 2004). As discussed in the previous section, the development of the FM remit at this larger scale could be crucial to FM practice in Thailand in the future.

The extent to which the framework should be applied will depend on its practical effectiveness in use to handle any specific set of circumstances within a particular organisation and its sector. Calibration and customisation of the decision process will therefore need to be considered in order to make the best practical use of the positioning framework. Extensions to the positioning decision process may need to be considered when FM practitioners are involved in highly complex organisational support arrangements, while a simplified process with fewer stages of decision, might be adopted in small organisations with relatively uncomplicated support requirements.

10.5 Areas for Further Research and Development

The research reported in this thesis relates to an exploratory and open-ended field of study which, at the outset, was only partially informed by previous work and published information, relevant concepts and practical experience. The general area for research was poorly defined with few established approaches, secure methods or general theory on which to build. The results of the research implies that support management generally and facility management in particular, needs to develop its own 'practical theory' to underpin and enhance its professional and practice capabilities in dealing with positioning alignment to business, resource allocation, support service arrangements and change management. Since the research was subject to the typically tight constraints that are associated with Ph.D. studies, a considerable amount of further works and developments is required in a number of areas, both to improve the reliability of the research output in the short-term and to advance the fundamental knowledge in the field over the medium and longer terms.

While the research has created the basic platform for studying FM positioning and repositioning, this needs to be extended and generalised in order to check the reliability of findings and to validate the approach further. A major priority for further research should therefore be to undertake a much larger number of case investigations covering a wider variety and range of circumstances with a more extensive and representative sample of questionnaire surveys and structured interviews. It is particularly important that the next stage of research should also cover a wider range of organisational sectors to identify and characterise the generic priorities, emphasis and positioning criteria for each particular sector. In the case of Thailand, further research should include all major sectors that are important to the country and its economy, particularly the hotel, leisure and hospitality sectors, retail, healthcare, public infrastructure and mixed-use facilities. In these sectors, the management of facility resources and support services has a direct impact on external customers and is critical to their core business operations. So by developing specific applications of the framework and tools for these sectors, the country could benefit in economic terms and in improved public services overall. With the insights gained from further studies of this kind, organisations should be able to position their FM arrangements to deliver facility support and services that respond to the needs of a given sector more effectively.

Many more 'Applicability Trials' need to be undertaken in different sectors and countries, based on larger and more diverse participant groups in order to validate the results and to develop the method in its own right. In addition, a programme of applied research will be necessary to help to realise the full potential and practical benefits of the study results.

Trials of 'real-world' applications of the positioning framework and its tools will be essential to examine the effectiveness of the framework and tools in practice and in real time as circumstances and priorities change, leading to a more thorough and detailed evaluation of the real value of the positioning framework. These trials would help to verify the applicability of the framework across a wider sample of circumstances and sectors, and could result in further refinements of the positioning process. Targeted investigations of parts of the positioning framework would also be beneficial to overcome the minor reservations that were expressed in the 'applicability trials', particularly concerning the option evaluation stage. Furthermore, some stages in the positioning framework need to be developed or extended to meet the particular needs of specific sectors, particularly those facility types where there is a direct interface with external customers, as mentioned earlier.

In parallel to the 'real-world' trials of the framework, perhaps the most important other area for further work relates to the development of the individual decision tools and procedures within the positioning process. Each of the thirteen decision tools shown in Figure 9(2) on page 199, need more detailed consideration, development and testing. These workdocument tools and other available techniques require further investigation concerning the degree to which they could be modified and customised for use in different circumstances and sectors, and how they could be improved for practical use, perhaps as part of computer software packages. Additional decision tools may also need to be integrated within the process to help practitioners cope with specific issues such as environmental management or the arrangements for legal compliance. Where there is an existing basis or proposal for a new decision tool that is relevant to a particular stage of the positioning process, then it should be examined and evaluated for possible inclusion in the process. Examples here might include the application of the 'opportunity-risk appraisal' approach for option comparison or the use of a 'resource profiling schema' to investigate FM support provisions, both as existing and as required, within stages three and four of the positioning process. Furthermore, research and development work should be undertaken in relation to one or a combination of the many existing 'serviceability tools' to determine whether they might contribute to the consideration of alternative support service groupings in stage three of the process.

Over the medium to longer term, the positioning framework and tools could be developed into a decision support system that utilises the advantages of the available information technology. A co-ordinated application of cross-sector benchmarking information, key performance indicators and other available databases could be incorporated within a consolidated computer based data structure to support the positioning framework and decision tools. This in turn, could become part of a web-based system for positioning FM

relating to a larger community of framework applications. As with other expert systems and web-based applications, this would help to organise and collect data, to store records and information, to track the progress of the decision process in real time, with links to decision tools for data processing and option evaluation, producing report documentation as required. A web-based application would also enable working groups to share information, to access internal and external databases, and to develop a customised set of procedures to suit their specific needs. Finally, it would enable the user to relate the positioning methodology to the family of other well established and available web-based decision tools such as risk audits, environmental impact analysis and project management applications.

Finally, the research has uncovered a number of areas where further fundamental research could lead to significant advances in the theoretical understanding of the field study. Areas for further research may include:

- *Sector Profiling*: research to characterise, classify and differentiate between the typical FM support positions within each of the major organisational sectors. Research outputs would clarify the fundamental similarities and differences of FM support requirements by sector and help to establish a practical basis for a positioning taxonomy for FM.

- *Origins of Change*: detailed studies to investigate the full range of 'origins of FM change' as introduced in section 6.4. The research could lead to a comprehensive understanding of the combinational impacts of the set of change origins on the variety of support management responses that may be undertaken.

- *Change Management Process in FM*: empirical research into the specific basis for change management decisions and implementations in FM, including the nature, timeframe and scale of change processes, whether continuous, incremental or discrete, undertaken on a single or multi stage basis. The results could provide an authoritative understanding of the range of change strategies for support management generally and for FM in particular.

- *Strategic Support Positions*: fundamental research into the influences of organisational policy and support requirements on the dynamic balance between the short-term operational and longer-term strategic priorities of FM. The research could demonstrate and establish the areas of real linkage between the operational strategy of the core business and FM's strategic support arrangements, thereby further developing the 'generic positioning concept' as described in this thesis.

- *Concept Testing*: applied research to further explore and develop the 'applicability trial' methodology as employed in this thesis. This research would need to examine existing testing and trialing methodologies generally, analysing their strengths, weaknesses and suitability in relation to new approaches within the field of facility management. The outcome could lead to the development of a generic framework and methodology for testing FM ideas prior to their implementation in practice.
- *FM Support Innovation*: research to explore, extend and enrich the possible scope, remit and support arrangements of FM. The FM positioning decision framework as described in this thesis, could be used to structure a systematic search for novel support management exemplars and opportunities. It could also be used as a framework to generate and consider new and innovative support arrangements in FM.

In conclusion, despite the encouraging developments in the field of facility management over the last twenty-five years, specific theories and methods to underpin FM practice are rare and its position in regard to its potential contributions to organisational and business support remains unclear. By conducting a comprehensive literature review, developing a conceptual approach for positioning FM, undertaking the case investigations of the practical and theoretical factors that are involved, the research reported in this thesis has provided answer to all of the basic questions of the study. The research has explored the recurrent areas of decision concerning FM arrangements, the key factors that affect FM change and has developed and tested the basis for a generic positioning decision framework. The knowledge and insights gained from this research should help to build a more secure platform for the development of FM theory, its disciplinary base and its professional activities for the future. Hopefully, this research will contribute towards the development of a more definitive FM positions to support the operational strategies and changing requirements of organisations of all kinds and across all sectors.

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APPENDIX A: Case Study Reports

This appendix includes the case reports for the five case studies that were undertaken as a central part of the research. The case study approach that was adopted used mixed methods of data collection, including semi-structured interview, document search, questionnaires and direct observations. All of the information obtained through these methods and sources was transcribed and sorted in a 'case report' format, describing the detailed information for each organisation, its facility resources, services and FM practices.

Case Report [A]: Facilities Management for An International Telecommunications Company

Background

The organisation in Case A is one of three largest wireless communication service providers in Thailand. It offers a wide range of mobile phone and telecommunication services. It is a joint venture between a large local corporation whose core business is agricultural product trading, and a multi-national telecommunication corporation who is well known in providing wireless communication services in many countries. The company was initially established in 1994, and was taken over by a large Thai agriculture corporation who owned a landline telephone company and wanted to expand its communication business to mobile phone business in 1999. Later in the same year, the organisation was joined by a telecommunication corporation from the UK. Each local and foreign partner invested in an equal proportion of fifty percent.

The organisation had a very fast development path. It began its business in 2001 and reached the full stage of business operations in the late 2002. The organisation was able to acquire 15% of the total market and became the third largest telecommunication service provider in the country.

The co-investment led to the adoption of the international brand of the foreign partner, giving the organisation business goodwill, reputation, and the import of know-how, experience, technology, and business structure to the newly formed entity. In this case, facility management was one of practices transferred from the foreign partner. The FM issue and practice were emphasised by the foreign partner since the conditions of property and environment issues were regarded as key image of the 'Brand'.

Position: Before 2000

Organisation

During this period, the organisation was small, with informal organisational structure, having a small number of staff. It adopted a tentative, informal and compact/flat organisational structure based on primary functions. Its organisational structure was informal and simple with short hierarchical level. The organisation had a relatively large number of foreign staff. Its staff consisted of the mix of foreign and local employees at the ratio of 3:7. The organisation did not start its business and service operations yet at this period.

Business Strategies and Organisation Policies

The main business strategy of the company at this first stage was concerned with seeking a business partner with a well-known telecommunication brand and to commence its business

operations as soon as possible. During this period, the organisation intended to keep its operations compact and simple, retaining the small amounts of its assets and staffs. All business resources were allocated for business preparations and preserved for the pending business operations. The organisation adopted minimum standards in providing all support and services.

Work Operations

Most of the business operations involved planning and forming business structure of the new coming enterprise and preparations for the pending business and services launching. The main activities involved business planning, preparations and negotiations, facility resources planning, organisational resources planning, etc. The working processes were in ad-hoc fashion, with compact and simple operations with informal procedure.

Facility Resource and Use

The organisation was located in a office of 4,000 Sq. m. The office was leasehold space in a commercial office building with inclusive basic building services. It was intended to be a temporary, interim head-office for the organisation during the setting up stage. The organisation had a certain plan to relocate to a new office before the full business commencement. This office was mainly used as a workplace for the small working teams and business meetings. There were no formal standards of office space and facility.

FM Practice

FM practice during this period was relatively simple. The FM team involved the issues of facility resources acquisition and development planning, and building service coordination and provision, and planning for workplace accommodation when the new offices were finished. The Facilities team undertook the role of office and building services coordinator linking the organisation with the landlord and building service providers, and delivering other services needed for office operations. However, the project planning was perhaps the most important and critical function of the department at the time. The planning functions were considered to be an important function in business and organisation development. On the other hand, it coordinated and handled all basic facility services while being in the temporary, rental office, with the landlord. The FM team was concerned with two key issues: 1) preparing plans and actions for physical resources acquisition and development in the next stage; 2) ensuring that the inclusive/provided building services were regularly delivered.

Responsibilities and Scope of Services

The FM team was responsible for basic, routine building services and operations within the temporary head-office. The scope of FM services then was quite limited covering only office administration and facility services. The office administration covered the basic services such as cleaning, security, office housekeeping. The facility services included building operations and maintenance. On the other hand, it had main responsibility for the organisation's facility resources planning. The FM team was allocated with a tentative operating budget.

Management Participation and Decision Authority

The FM team participated regularly in business management planning and meeting to receive the policies and briefs of facility resource development and acquisition and report the progress of the facility planning. The FM took a main role in supporting the decisions for facility developments with the business executives. Its decisions were mainly concerned with the daily operational decisions.

FM Organisation

At this stage, the FM department was structured in a simple form, having small number of staff. It adapted a typical form of property management functional structure consisting of two main functions: Office services and Facilities services, as shown in Figure A(1).

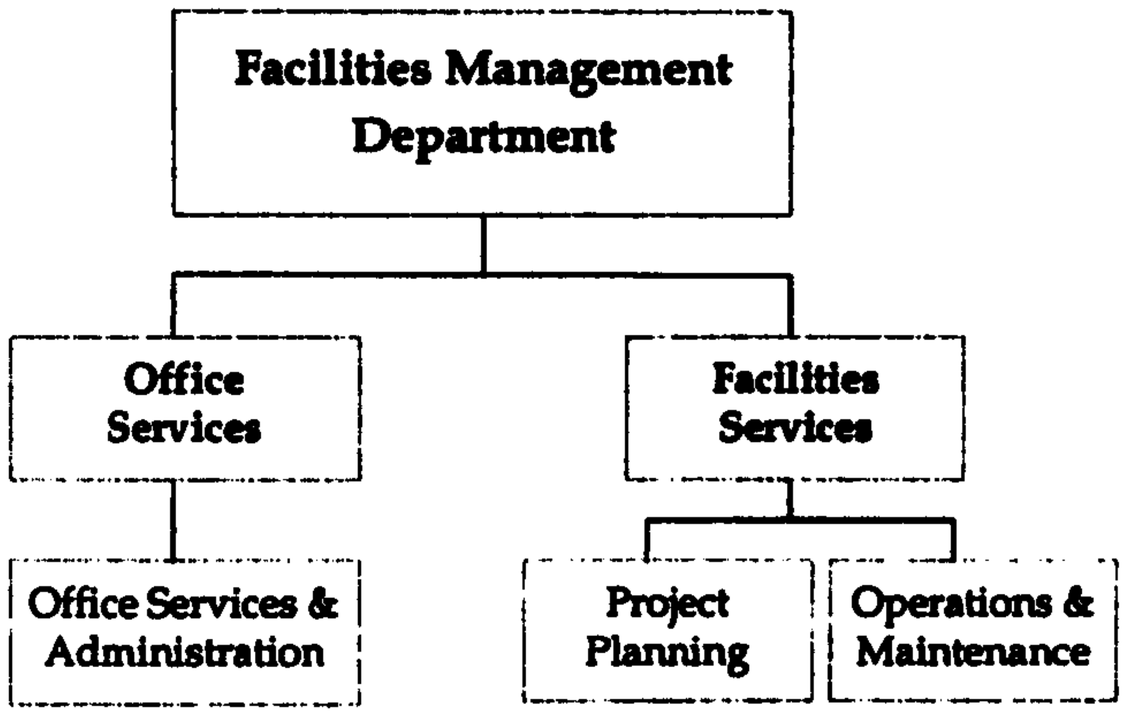


Figure A(1) FM Structure in the Inception Stage

Service Delivery Arrangement

Due to the limitation of resources, the organisation decided to adopt outsourcing approach for its service delivery. The outsourcing was the combination of service suppliers and external consultants, while most building services were provided by the landlord. There was no pattern of service contracting.

Performance Measurement

At this period, the performance accountability was not yet to be a priority issue as the organisation concentrated on emerging in the market and the formal work practice was not fully established. In turn, there was no formal performance measurement for facility management.

Position: Between 2000 – Late 2002

Organisation

The organisation began its business growth period in the middle of 2000. It executed the resources acquisition plans. During this period, more than two thousand new staff was recruited. The physical resources were being acquired to support the operations. A formal organisational structure and working processes were established, adopting multi-divisional structure. The organisation's structure and culture were adapted from its foreign partner. The organisational functions divided into the core operations and the support functions, as shown in Figure A(2).

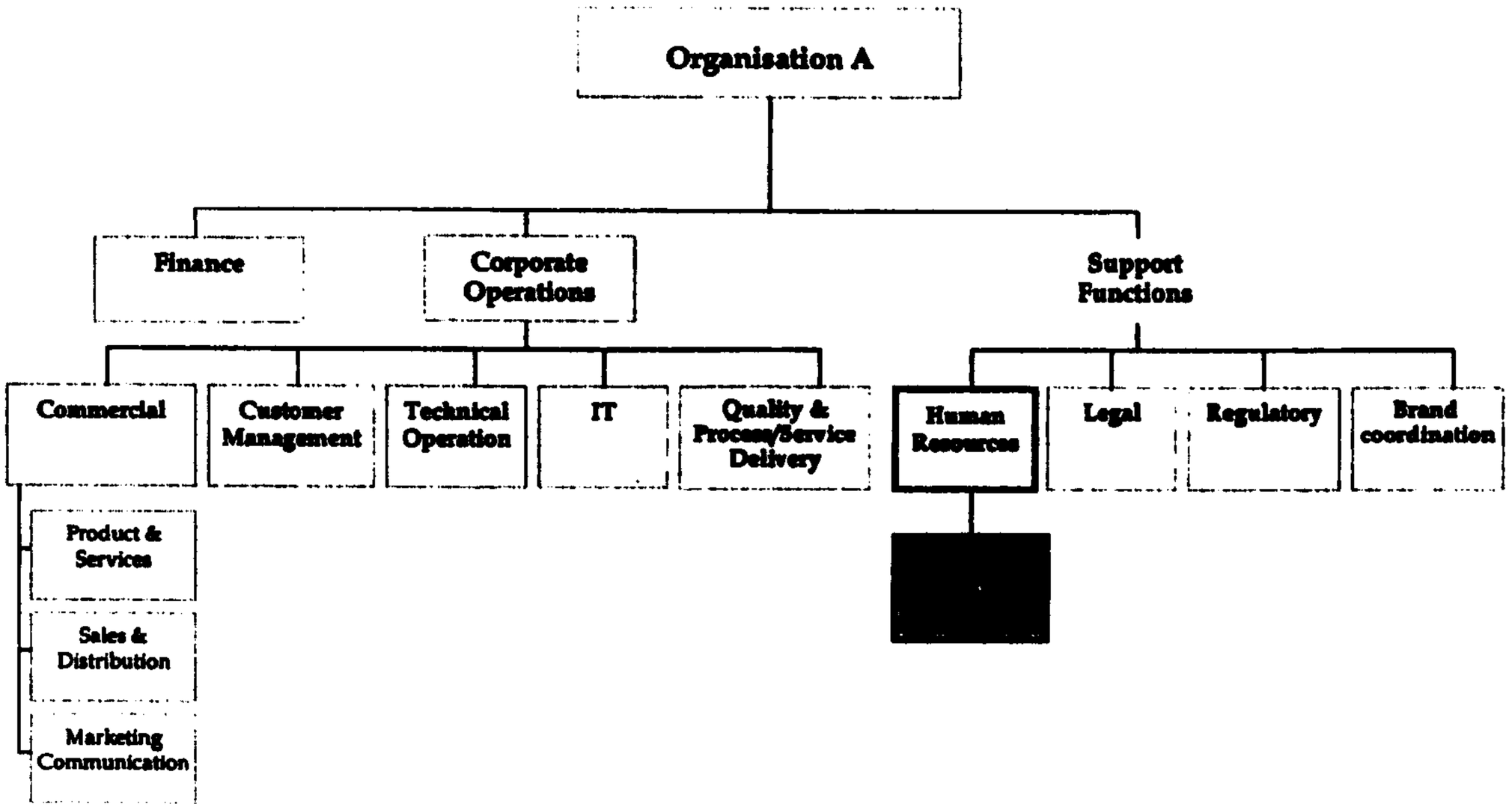


Figure A(2) Case A Organisational Structure in 2002

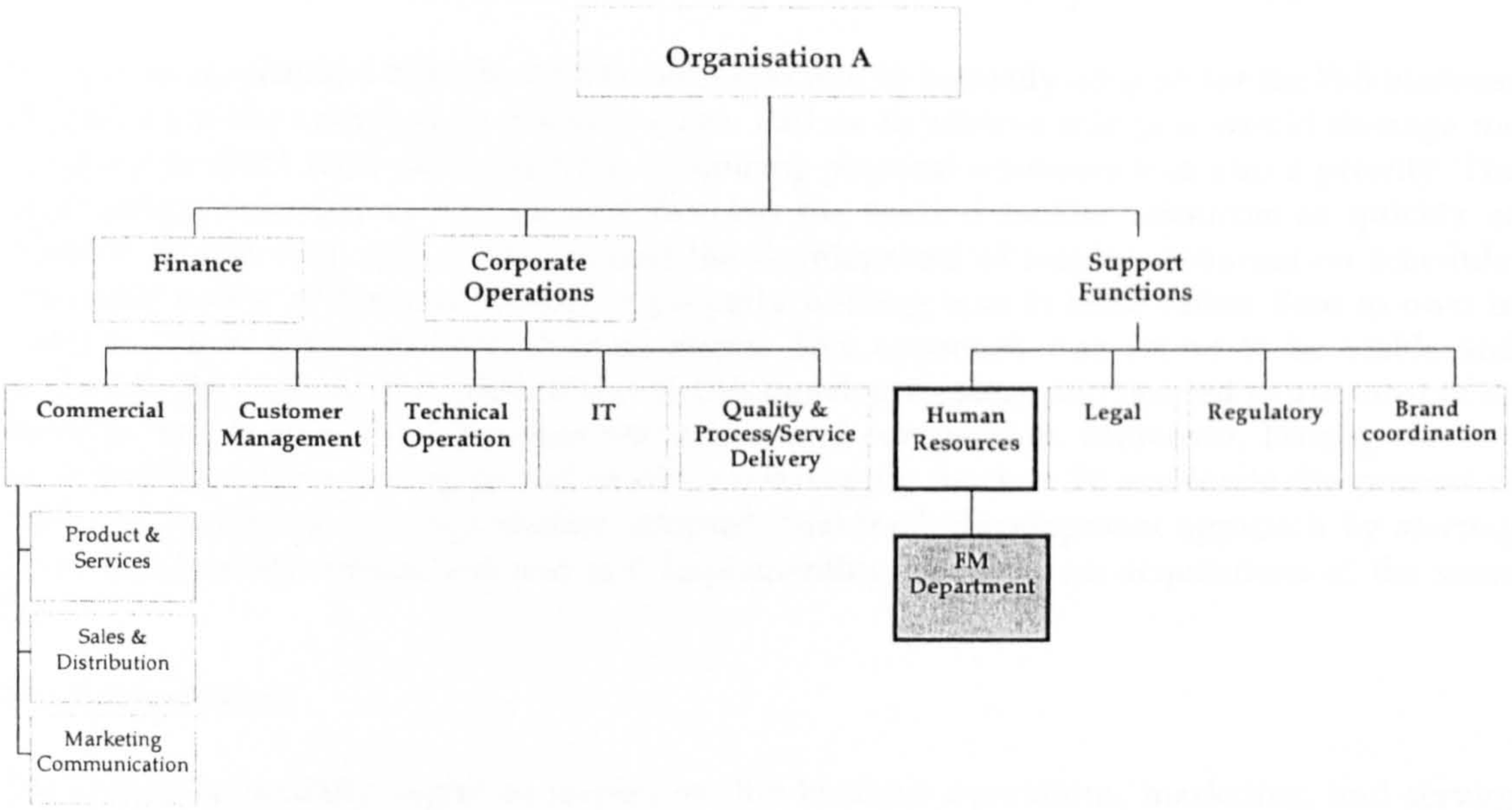
The core functions were the functions that involved business operation of the corporation, including products and services, sales and distribution, marketing communication, customer management, quality and process, technical operations, and IT. In this organisation, two technical operations were considered to be the core operations; network technical operation and IT operation. The network technical operation was a highly critical function of the business operation, responsible for operations and maintenance of all cell-sites and Base Transmission Station (BTS)[1] which were essential to the service operations overall. The IT department was responsible for IT network operation and maintenance, data centre, programme and all IT and computer equipment. The support functions of the company included HR, Legal, Regulatory and Brand coordination. The FM function was formed under the HR division.

However, this organisational structure was different than the corporate operations adopted in other countries where the IT operations were part of FM function. Nonetheless, this structure was feasible and practical to the organisation while its IT operations was still in establishing stage. It was told that it would be possible that the functions of IT operations and maintenance would be included within FM department in the future when once all the system were completed and operated fully.

Business Strategy and Organisation Policies

During this period, the main business plan was to gain market share from the other two existing competitors and to establish the Brand in the market. The market entry was considered as the most crucial issues of business operations in this period. The commercial advertising and the physical appearance of company's buildings were used to publicise the brand and services of the organisation. In doing so, its commercial brand and services must be different and distinctive. The business processes and the organisational image were adopted from the international standards of the foreign partner. The organisation developed its policy

[1] The BTS is the network transmission and connection of the wireless communication system and services.



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[1] The BTS is the network transmission and connection of the wireless communication system and services.

and culture based on the international corporate guidelines. The organisation emphasised on the working environment and health and safety of staffs in the corporate facilities.

It was also emphasised that the facility resources had to be ready on plan for the full business operations of the company in the next stage. Failure to achieve this goal would damage the company in short-term and long-term. Acquiring physical resources was also a priority. The organisation intended to acquire and develop the needed facility resources as quickly as possible. It was very critical to complete the development of facility resources on schedule. The main policy of the corporation in property holding was to lease rather than to own in order to retain small number of fixed assets. This approach was found to be viable and feasible to the organisation while it was in this developing stage and needed to use most of its financial resources for the business operations and competition. Moreover, leasing was the most feasible option during period of office oversupply market. To accelerate the process of business operations, the organisation adopted dual-track development approach by starting its partial business operations and and implementing its resources acquisitions at the same time.

Work Operations

The company partially begun to implement the business operations, marketing, and service networks, and customer services in the late 2001 known as 'business soft launching'. The organisation began the formal work operation system and started its customer services and product sale in its retail shops throughout the country. The working processes and services operations/standards were adapted from the guidelines and standard practices of the foreign partner. The work operations applied the use of computer and information technology. The organisation had both working types of individual and group working.

Facility Resources and Uses

The increase of staff resulted in the need for a new office that could accommodate the increased number of staff, facilitate the business operations, and represent the image and brand of the service. The company decided to relocate its head-office to a new building. By the end of 2000, the organisation began to implement its physical resource acquisition plan. An office space in a prime commercial office building in the centre of Bangkok CBD was acquired and occupied for a new head office. The new head office consisted of 11,000 Sq. m., and was completed in May 2001. Apart from the head office, the company needed several facilities to support the operations launch. These included a 5,200 Sq. m. Call centre, 6 regional rollout offices, 3 regional maintenance offices, 8 area maintenance offices, 20 retail units & 10 kiosks. The former temporary office was converted to be the call centre 2. In total, the organisation was being occupied more than 40 buildings, with more than 30,000 Sq. m. The construction continued until early 2002. These facilities had to be completed before February 2002, so that the operations would not be delayed and interrupted. Once the buildings were completed, the relocations were begun immediately. Office relocation and accommodation was one of the main priorities of the organisation. In turn, the churn rate was very high during this period, and reduced considerably after the relocations were completed. These office buildings and facilities were considered as the support resource of the organisation's core operations.

FM Practice

Based on the corporate policy adopted from the parent company in UK, FM was considered and required as an anchor support function of the organisation. Prior to the implementation of facility resource acquisition and development, the organisation realised its current FM team was incapable of supporting the changes and increasing operations of the organisation and handling the increasing facility resources and support services in the coming stage. The issue of FM restructuring was raised. An external consultant and an internal consultant from the

UK were brought in to assist the company in reorganising the FM function. The reorganisation process covered three issues:

1. Defining roles and significance of facilities. - *'What would the company want the facility to perform?'*
2. Identifying scope of services and works that were needed to operate the facilities and achieve the function of facilities.
3. Structuring the FM function by dividing into key functions based on the amount of work, the priority of work and the policy of the organisation.

The implementation of FM reorganisation process entailed a set of activities:

1. Group workshop including collecting information of all tasks, tasks analysis and evaluation, regrouping all the current and future tasks, and shaping up the future Facilities Management team
2. Individual interview with the manager including collecting all details tasks of each team, getting rid of unnecessary tasks & processes, and estimating the quantity of all tasks and set up each team.
3. Analysis all tasks and workflow including collecting and analysis all information from workshops and interviews, and creating new and modifying existing workflow and processes to attain the higher efficiency.
4. Reorganisation including creating new organisation chart base on information from the workshop and interviews, and clarifying new roles and duties for each team.

In turn, Facilities Management department was re-established under HR division. FM was considered as part of HR because it had main involvement with all facilities and services supporting people while they are in the organisation. The management and planning of facilities were centralised within the FM department. Its key priorities included assisting the other business units to start up their operations in the new offices and other facilities as quickly as possible, completing and allocating the facility resources to the company on time, and attaining the facility and health and safety standards of the company. FM then must ensure that:

- Facility resources were completed and acquired on plans within budget and quality target.
- Buildings were operated immediately after their construction completion.
- The organisation could operate its business on plan.

FM was the main function for facility strategic planning and facility project management. During this period, FM was considered as a very crucial function of the organisation responsible for acquiring facility resources for its business operations. The readiness and completion of facility resources were very critical to the organisation and its business operations overall. Facility planning and programming functions/services were also essential at this stage. The priority of maintenance and repair services were regarded in low level because buildings were still new and built in high quality. In addition, these tasks were conducted by the property management team of the landlord since the buildings were rental. The life quality of employee was regarded as a key issue in organisation policy.

Responsibilities and Scope of Services

The FM function of the company in Thailand is different from those in other countries. In some countries, FM function is responsible for building services and maintenance for retail shops. In some other countries, FM function includes IT and network. Its scope of responsibilities was defined as the management and services in physical assets that have people or users. FM was a function for managing all offices and facilities of the company, involving physical and human issues. In Thailand, FM department was and was designated to

be responsible for 3 issues: property, facilities and environment, health & safety, and security. Its responsibilities covered all workplace- and facility-related tasks and services, except the cell-sites, their system and equipment of the network, and BTS. In this case, the Technical department was responsible for entire technical operation systems such as engineering systems, access network, network link system, and Base Transmission Station, while the IT department was responsible for the operations and maintenance of data-centre, network system support, database, and computer software and applications. In term of task, the FM department was responsible for all facility projects delivery, relocating, allocating and accommodating the organisation in the new office facilities, and providing the essential facility services to support the facility use and office operations. In addition, it was responsible for finding the locations for regional office and retail shops, and undertaking all the property deal negotiations.

The FM services covered an extensive range of facility services including real estate transaction services, project management, facility maintenance and repairs, building operations and services, office services, planning and programming, space planning, and facility services administrative management, environment services, heath and safety and security services, and FM help desk. The project management service was considered as the key function of the department, especially in the first period of the organisation development stage, while the real estate transaction was an essential since the organisation continued to acquire facilities for its retail shops. The Environment and H&S were considered as critical issues for the organisation according to the corporate policy. There was no corporate guideline for defining the scope of facility services. The range of facility services were provided based on the standard needs of office operations, facility operations, maintenance and use, and in relation to the corporate issues. The list of FM services during this period is shown in Figure A (3) below.

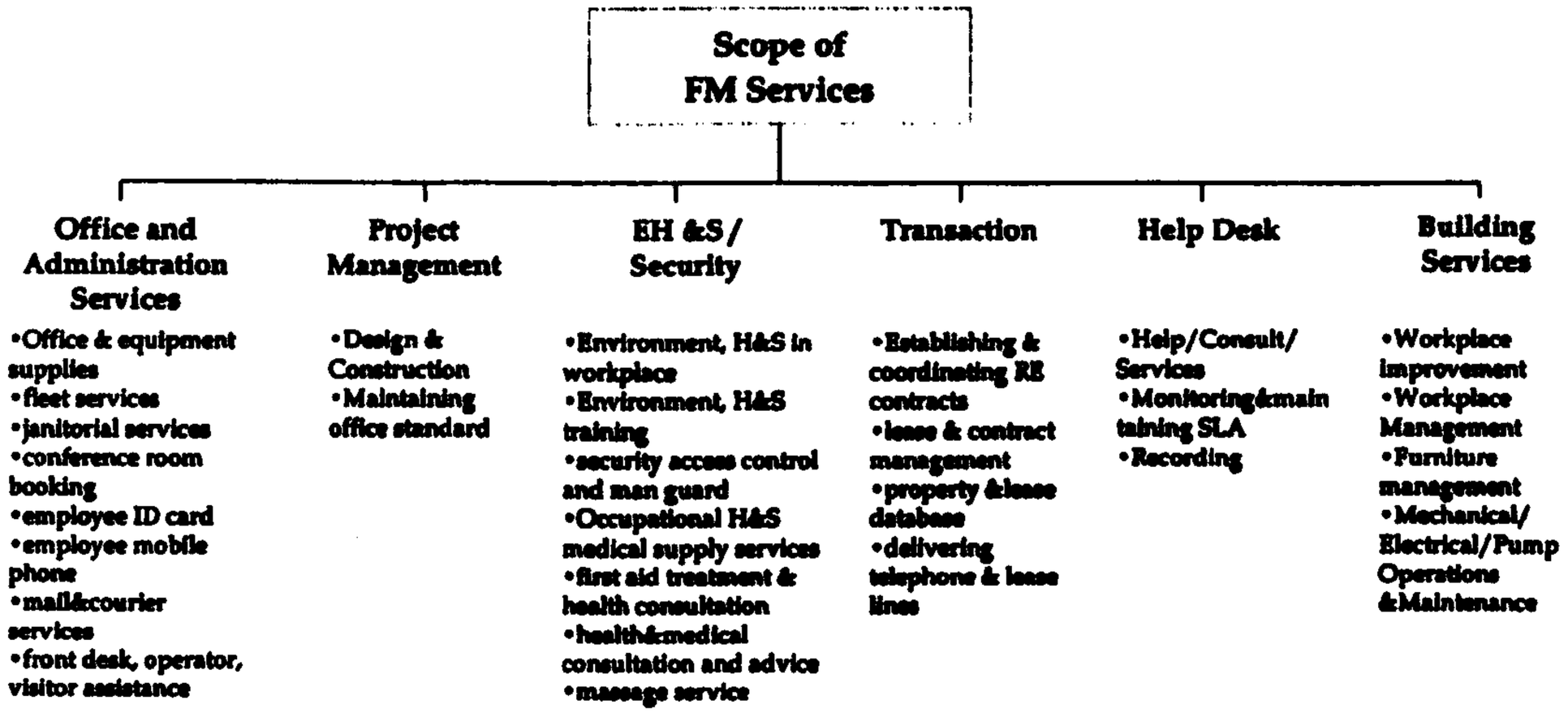


Figure A(3) Scope of FM Services

The FM department had 36 permanent staffs and employed a few temporary staff for office services and operators. The budget of the department was divided into 2 types: Operating expenses (OPEX) and Capital expenses (CAPEX). During the growth period, the ratio of OPEX to CAPEX was 1:6. The FM department was responsible for with the very large capital investment budget of approximate 1,200 million Baht, and approximately 200 million Baht for facility operating expenses. The profile of the FM expenses in the late 2002 is illustrated in Figure A(4) below.

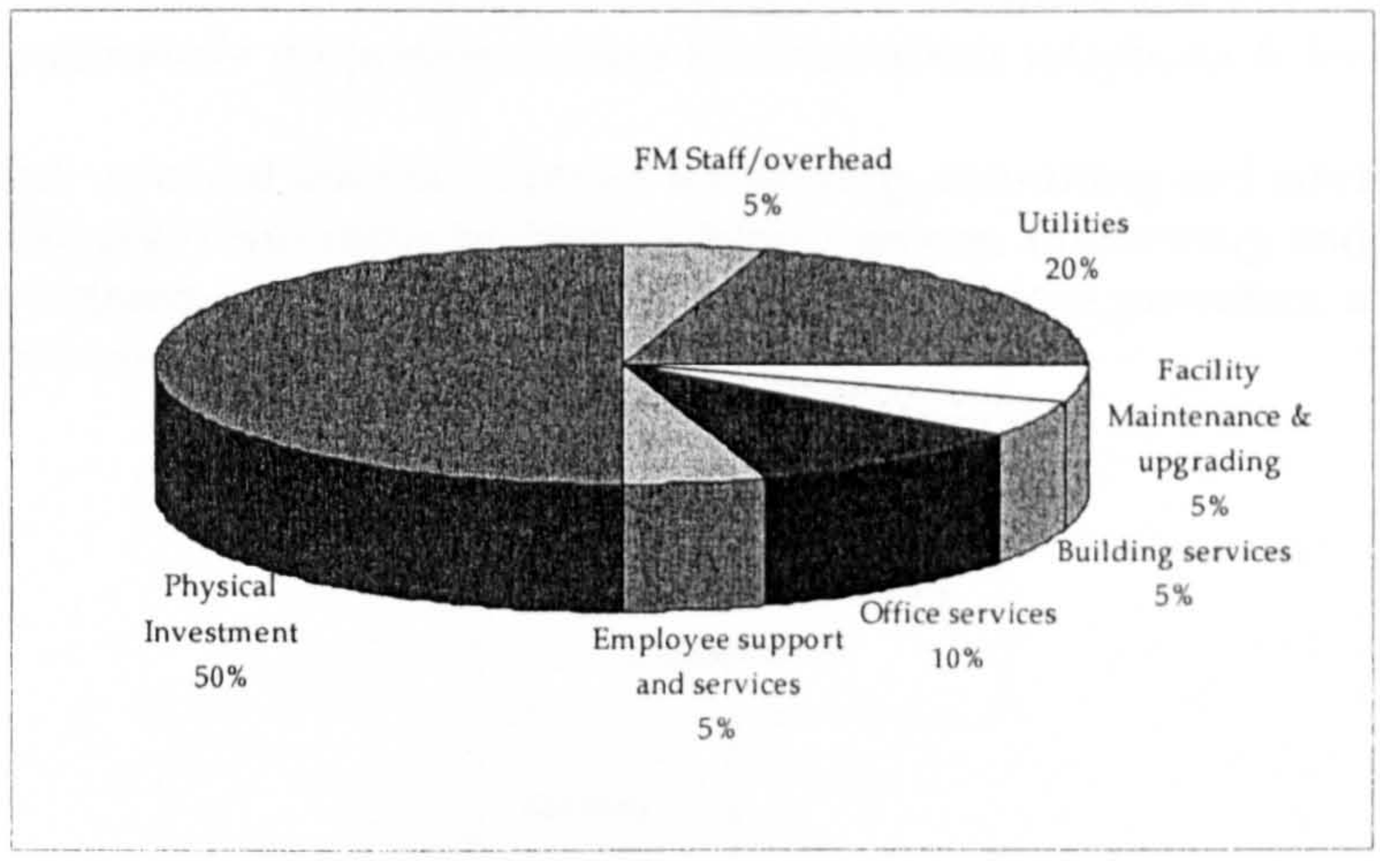


Figure A(4) FM Expenses in the 2002

Management Participation and Decision Authority

As the facility acquisitions were critical to the organisation's operations overall, FM function was regarded as a critical function and had to participate in weekly executive meetings to ensure that the facility development and acquisition were under schedules. FM function was very much concerned with mid-term planning issues and project management, focusing on completing the facility construction and office relocation. The department was empowered with an extensive decision-making authority, according to its ability to sign off the financial budget and the amount of capital investment and operating budgets. It was entitled to spend the capital investment budget for the facility development without the need to get approval from the business management. on the other hand, it was allowed to set out the operating budget for the facility services and management.

FM Organisation

The re-organisation process resulted in a new FM organisational and functional structure. The new structure of FM function was designed based on the key issue of supporting organisational operations rather than providing basic building services to the user as in the past. The structure of FM department adopted a functional form dividing into six sections based on skill or type of work: Real estate services, Building services, Administration services, Project management, EH&S/Security, Transaction, and FM helpdesk, as shown in Figure A(5). This structure was constructed based on a typical format of the corporation using in every country.

- *Building services* involved workplace improvement, workplace management, furniture management, M/E/P systems operations and maintenance services
- *Office & administration services* involved office equipment and supplies, fleet services, janitorial services, conference room booking, employee ID & business card, employee business mobile phone, mail and courier services, front desk, operator, and visitor assistance and facility services of the retail shop.
- *EH&S/Security* involved the management of the environment, health and safety issues in workplace, the environmental issues, the safety training, the security access control system and guard, the occupational medical supply services, the first aid treatment and health consultation, and the massage service.
- *Project management* involved projects design and construction, and maintaining office's standards by using the corporate guideline from UK.

- *Transactions* involved establishing and coordinating all real estate contacts, managing lease administration and contracts, managing lease database and any information related to the organisation's properties, deliver facilities about telephone & lease lines for retail shops.
- *FM help desk* involved internal contract for helping, consulting and advising the building user (employees) concerning facilities related services, monitoring and maintaining the stand level agreements on facilities services with the service providers, and keeping all of facilities records.

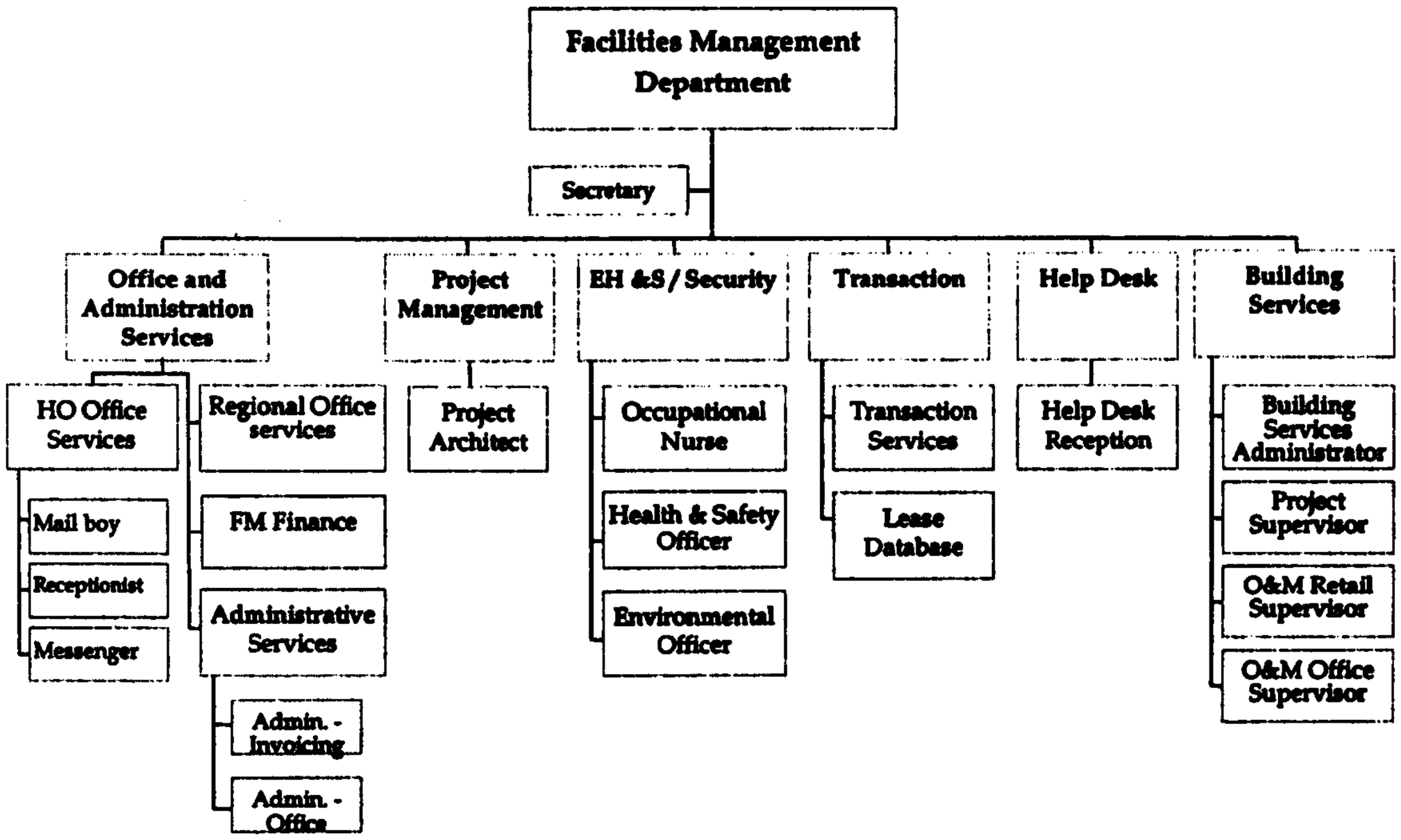


Figure A(5) FM Department between 2000-2003

It was told that in setting out FM operational management structure the factor of the geographical locations of the facility resources were taken into considerations in order to ensure that the facility services could be delivered within the same standards of time and quality. In turn, the facility services were divided into Bangkok and Regional service operations. The Operations and Maintenance services were divided into 'Office' and 'Retail' sections since their building characteristics and systems were different.

Service Arrangement

Outsourcing was the main method for delivering services. Outsourcing was considered to be a practical and feasible option, allowing the department to keep the minimum number of its staff. There were two sources of outsourcing: professional service contractor and individual/temporary staff. More than ninety percent of facilities services was delivered by professional service contractors, while the temporary staff contracting was used to deliver the low skill and non-technical services such as operator and reception. The department contracted out formally on facility operations and maintenance service, security, and office cleaning services to major vendors since these tasks require high reliability and specialised skills. It was told that each type of these outsourcing sources had different advantages and disadvantages. The temporary staff tended to cause high turnover rate and require learning period, but was less expensive, while formal contracting out was more expensive but more reliable. The department also hired a consultant company to assist them in delivering projects.

The consultant provided supports on expertise, technical skills on the task, and human resource on the task. There were few services that were delivered by in-house staff, such as minor/emergency repair service. Mail boy and messenger services were still retained in-house because the organisation did not want to lay off its staff.

The organisation intended to keep the management and planning authority within itself. It was told that the capacity of local facility services/skills market did affect the option of the service delivery arrangement of the organisation as the head of FM commented that:

> *'There were too few reliable facility service providers. Most current service providers in the market are still not capable of providing an effective FM service package.'*

The FM department preferred one contract for each service, with two-year duration. The duration of the contract was also considered in relation to the characteristics of work, i.e. simple or complicate, and creditability of the service provider. Most simple services were likely to be contracted for standard two years. It was told that outsourcing was a typical method adopted in other countries, albeit there was no official corporate policy on sourcing method. However, the outsourcing arrangements tended to subject to the capabilities of local FM department and skill market, and cost advantage. In some other countries, FM department adopted the total facility management arrangement, and undertook the role of coordinator between the company and TFM service provider. In Thailand, this partial outsourcing approach was found to be the most feasible and practical option as there was no a TFM service provider available. Cost was the key issue in selecting the arrangements of outsourcing. In this case, the groups of service delivery were decided in relation to the practicality and feasibility of service provision. Overall, the head of FM considered that outsourcing method provided the advantage of flexibility to FM practice in the short and longer terms.

Performance measurement

At this stage, the FM and the organisation did not give much attention to performance measurement on facility services since the facilities were not totally in use yet. In turn, there was no formal performance measurement for FM services. Overall, the main focus of performance measurement was placed on the quality and completion of facility development projects/facility resources. The system of performance measurement and evaluation was still informal and not fully applied until the completion of resource acquisition.

Position: From Late 2002 – Present

Organisation

The organisation moved into the steady stage very quickly. It commenced the full business operations in 2002, and became the third largest communication company in Thailand, holding about 15% of the market share and generating gross revenue of approximately 1,500 million Baht annually. All offices and services were fully operated. It was reported that all facility constructions were finished on time and all office accommodations were completed. At this stage, the local partner became to take the leading role in business management. The organisation determined to retain the current number of its employees, and had no plan to expand or acquire more physical resources in the near future. All attentions and focuses were given to the business competitions and operations. Meanwhile, the demand on office space became stable and the churn rate was decreasing significantly. The organisation intended to retain its organisation structure for some times, expecting to have low number of internal staff relocation. However, there were continuing expansions and relocations of the retail and kiosk shops, and network sites.

Business Strategy and Organisation Policies

The business goals of the organisation were changed to focus on retaining market share, completing its service network, and seeking to increase their customers from the new users. In order to gain and sustain its competitiveness, the organisation needed to expand its service network to cover the whole country as quickly as possible, and must have retail shops in good locations as many as possible. Recently the competitors began to use cost-cutting strategy forcing the organisation to adjust its business strategies in turn. The brand and image remained to be a main marketing tool, differentiating the organisation and its service products from its business competitors. The organisation employed the concept of 'look and feel' in creating its office environment to comfort its staff and customers while they were in its premises.

At this stage, the organisation turned to focus on core, regular business operations. The issues of customer-satisfaction and relation were crucial to the business operations and competitiveness, while the effectiveness and efficiency of business operations on the routine basis became the key business issues. Due to the technical and legal issues, the organisation separated its retail operations from the core operations, having an affiliate company responsible for the business of retail shops. The organisation's policy concerning facility management and services largely remained the same as that in the previous stage. The cost issues became the main concern of the organisation, as the business was becoming more competitive. This led to the cost-efficiency policy aiming to reduce all operating expenses including office service costs. It was reported that the business performance of the organisation was still below the target. All unnecessary costs and expenses needed to be reduced.

Work Operations

At this stage, all business units and department began their full operations. Most work operations and processes in the head-office were typical office works using the combination of all sorts of technology and computer applications. The customer services and product sales were mainly occurred at the retail shops. The organisation continued to open and relocate the retail shops to match with customer-base.

Facility Resources and Uses

In 2003, the facility resources of the organisation consisted of:

- A Head Office accommodating more than 1,300 organisation staff, plus average 3,500 visitors per month. It is the centre of the business operations of the corporation. Main activities in the HO were back-office operations. There were customer services and contacts on the ground floor.
- 6 regional rollout offices: operational office for network and business expansion in new areas.
- 3 Regional maintenance offices (RMO) accommodating office of technical operation and regional office. Building sizes of the RMO are between 400-600 Sq. m. The main activities in regional offices are office operations and technical services of the system.
- 5 Area maintenance offices (AMO) accommodating office of technical operation. Building sizes of the AMO are between 200-400 Sq. m.
- 29 retail shops and 55 retail kiosks accommodating commercial activities such as customer services, products and services selling, and payment services. Building sizes of the retail shops are between 150-200 Sq. m. Building sizes of the kiosk shops are between 120-200 Sq. m. They are usually in temporary buildings. Main activities at retail shops are customer services, product sales, and payment services. This type of facility has high intensity of customer contacts. It is critical to the core operations of the company.
- 2 Contact-centres: customer service call centre.

- 2 Network maintenance centres (NMC) accommodating network-switching systems.
- 2 Data centres accommodating servers and computer mainframe.
- 1 Billing centre.

Among all these facility resources, there was only one freehold building. The office facilities were considered as support resources for office works and not the most critical to the business operations.

FM Practice

At this stage, more than ninety-five percent of the property acquisition, the facility construction and the office accommodation were completed, and the needs of real estate services, facility planning and programming, and project management decreased. The priorities of FM changed from project-oriented to the routine facility operations and services. The FM practices and arrangement turned to focus on the routine facility operations and services, securing the regular and routine facility operations and services. Its objectives were to retain the facility in good conditions for working and company image and to provide the sufficient support services for building usage and office operations. The issues of the continuity of building operations and use, the service customer satisfaction and their health and safety in the buildings and the cost performance and control became crucial to FM service.

The FM department undertook the role of management function, rather than operational unit. All FM services were centralised, where all the work orders must report to the help desk at the head-office in Bangkok. FM service tended to respond in the reactive mode. The FM service standards were formed in relation to the need of the local employee whom the head of FM noticed that tended to be more tolerate and less concerned with environment than foreign staffs. In turn, the service standards of FM in Thailand were slightly lower than the international ones. It was told that the main problem of FM practice was the uncertainty of policy and business, which tended to affected the plan, budget and operations of FM.

Scope of responsibilities and services

The scope of FM responsibilities was similar to that of previous stage: covering all workplace - physical assets that accommodate staff and business operations, providing the support services of both facilities and office services for the entire organisation. The cell-sites and the Base Transmission Stations (BTS) remained to be excluded from FM's responsibilities. The FM department was responsible for the operations and maintenance of building systems within the organisation's rented space, together with the electrical supply generator and Urgent Power Supply (UPS) for the operations in the head-office, while the main building operations and maintenance services were provided by the landlords as a part of building contracts. The major groups of FM services were reduced down to five groups; office services, health and safety and environment management, and property transaction. The scope of EH&S/Security and Occupational health service was slightly reduced, especially environmental services. The issue of working environment and comfort was found to be not a critical issue, except the fire safety, than the previous stage as the cost becomes the main concern. According to the head of FM department, the FM practice of the company in Thailand had less emphasis on the environment and health and safety issues than in other countries, due to the local culture and unrestricted law.

Different from the previous stage, the investment budget was decreased significantly due to the completion of project development and physical resources acquisition. The FM department became mainly responsible for the budget of facility operating expenses. The department was allocated with the total budget of approximate 250 million Baht a year, divided into operating expenses of approximately 190 million Baht and investment budget of 60 million Baht. The facilities project investment budget was used for facility modifications. The office rent was the main operating expense of the department, while the budgets for

maintenance and upgrading and building services were relatively low since the buildings and facilities were still new. At this period, the ratio between Operating expenses and Capital expenses was 4:1. The proportion of the FM expenses in 2003 is shown in Figure A(6).

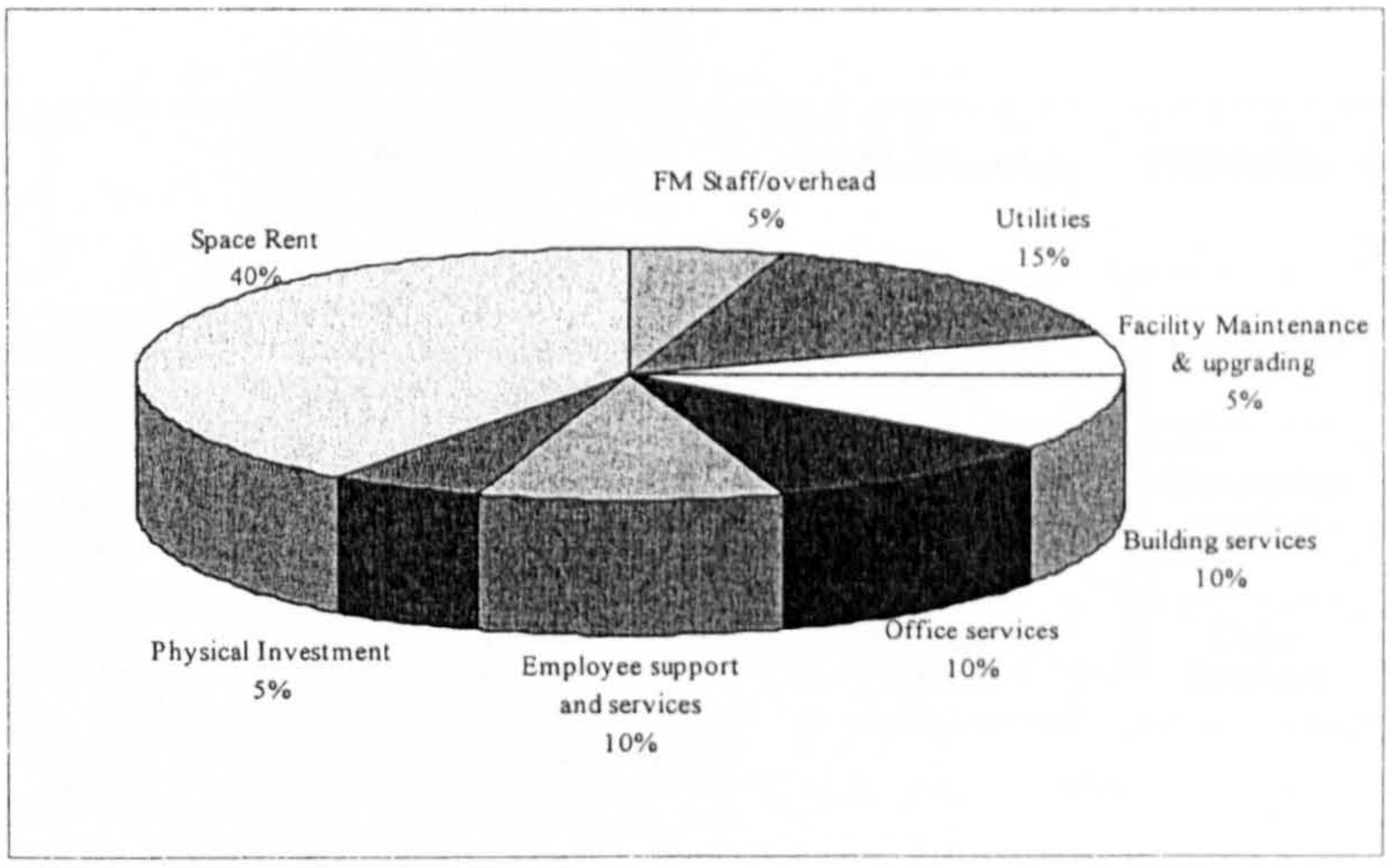


Figure A(6) FM Expenses in 2003

According to the head of FM department, the FM budget was normally approved as requested since the organisation realised that the FM services had effects to the working performance and life quality of the employees. The FM department still retained similar number of permanent staff of 35 people, while there were approximately 200 outsourcing staff providing facility operations services.

Level of Management Participation and Decision Authority

The involvement of FM in the business planning and management of FM decreased significantly. It was not required to participate in the business meeting anymore. The department was mainly responsible for short to mid-term plans and decisions concerning facility operations, maintenance and service performance improvement. It had authority for setting out its own operating and project budget, and tendering all service contracts. It was also entitled to conduct the purchasing of technical accessories and equipment, and tendering the service supplier contracts by itself.

FM organisation

After the completion of facility resource acquisition stage, FM realised that the project management function was far less required, and the organisation had no plan to increase its physical resources in the short-term. This led to the redundancy of the project management function. Recently, the FM department re-adjusted its departmental structure aiming to retain the efficiency of work performance. The main groups of FM functions were reduced to five, consisting of Building Services, Office and Administration Services, EH&S/Security, Transaction and FM help desk, as shown in Figure A(7).

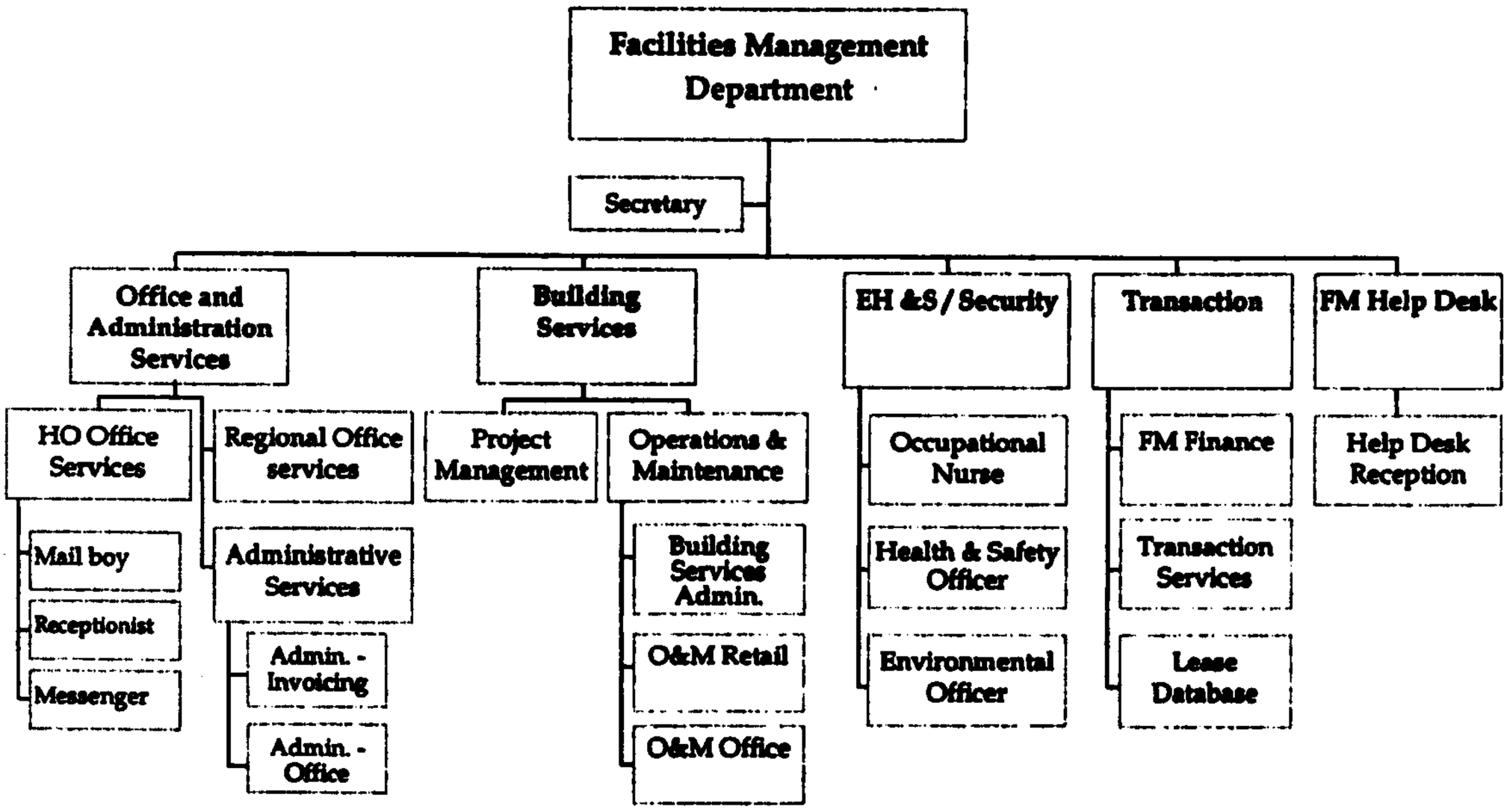


Figure A(7) FM Department in 2003

The project management function was subsumed within the Building Services function, and there were no longer the separation between external and internal projects. The Building services function was responsible for both the facility operations and maintenance and all internal project management. The Office and Administration services function remained to have the same scope of service. The Transaction Service function was responsible for all financial and budgeting issues of the FM department since it had the knowledge and skills.

Service Delivery Arrangement

Outsourcing remained to be the main service delivery approach of the company. The service delivery arrangements remained to be the same as the previous stage.

Performance Measurement

As the organisation moved into a stable period, the attention on performance measurement of facility services was arise. The performance measurement system and benchmarking were set out to assure that the quality of facility management services reaches the standard. The department applies the zero-budgeting system in controlling it annual budget. FM was mainly concerned with performance evaluation of its service vendors and contractors, using KPIs to control and evaluate performance of the contractors. The FM department was planning to set KPI for internal performance evaluation. The indicators would include customer satisfaction feedback, task completion, response rate, facility service quality, cost performance, lag-time and rate of breakdown. The FM department would report the results of these performance measurements to the board of management on quarterly and yearly basis.

Future Plans

- There was tendency that the FM department might be diversified into an independent division, rather than being under HR, in the future.
- The organisation still looked for a possibility of total FM outsourcing option. This would depend on the development of the skill market.
- In the near future, the department planed to apply a Facilities Management Information System (FMIS) to improve its work performance and collect all essential data.

- The FM department would look for possibility to reduce the number of its permanent staff as the head considered that a total number of between 20 and 25 people should be sufficient.

Case Report [B]: Facility Management Arrangement for the Headquarters Office of a Manufacturing Corporation

Background

The case is one of the largest construction materials manufacturing corporations in Thailand. The corporation was established in the early Twentieth Century to produce cement for the country by a Royal Decree of a King in order to reduce the need of imported cement. The corporation was founded based on the national interest and participates in the country's social development for prosperity, aiming to produce construction material for the Thais at economic prices, and to develop and improve the construction materials manufacturing. The organisation had had steady growth since it was established. It became a public company in many years later, and diversified its businesses and products to meet the needs of Thailand's economy, continuing to produce a wide range of construction products. In 1980s, it expanded its business operations in many areas and established a large number of new business units and affiliate companies. The cement products remained to be its core business and products, supplemented by building products, ceramics, gypsum, petrochemicals, and paper and packaging. In 1972, the organisation undertook the very first management restructuring to adjust its business structure to match with the large expansion of its product line, and form the new structure of corporate group. The group continued to expand in downstream markets as well as diversifying into new areas. Its markets covered both domestic and international. The corporation became one of the largest industrial conglomerates in Thailand, having very strong financial foundation and business goodwill. It had a good reputation in corporate governance. According to the corporate statement, the organisation adopted four fundamental corporate philosophies; adherence to fairness, dedication to excellence, believe in the value of individual and having social responsibility. In turn, the organisation tended to value highly its staff and consider them to be one of its most important business assets. The organisation strongly valued its employees, and been very concerned with community and public interests.

These organisational principles were the key influences in forming the corporate culture and paradigm. The organisation was very committed with the social responsibility and community contributions by providing support to projects which are beneficial to education and public welfare. It was very concerned with the conservation of good environmental conditions. The organisation was known for being very concerned with life quality of its employee and high payment and salary, extensive staff welfare, and the provisions of staff and family amenities. HR issue is always regarded as a crucial concern of the organisation.

Position: Before Business Restructuring

Organisation

In 1990s, the organisation was known as a large and old genuine Thai corporation of extensive building construction material manufacturing, with widely recognised brand. It had strong unified culture organisation adopting largely bureaucratic and hierarchical organisational structure. A senior FM staff described the characteristics of the organisation at that time as:

"a large and hierarchical organisation with medium-change, having strong and unified organisational culture."

Before 1998, the organisation was in a stable period having steady growth, having strong bases of finance and HR capacities, and engineering expertise and resources. All business units were managed under one corporation having the same organisational culture. The organisation adopted a multi-divisional organisational structure based on its product types. The organisational structure was divided into profit-centre business units and support functions, consisting of eight business groups and one support line. The main business groups were cement, building material, steel industry, ceramic, electronic and metal products, petrochemical industry, pulp and paper and motor and motorcycle. Each group had a particular vice-present overseeing its operational planning and management. The board of director, managing director, and vice-presidents were responsible for business strategies of the organisation overall and each business group. The organisation grouped all non-core functions, such as HR, Finance and Accounting, and Law, and Central Administration Services, under the line of Financial and Administration Support. These support functions provided support services across business operations. The organisation's structure before its business restructuring is shown in the Figure A(8).

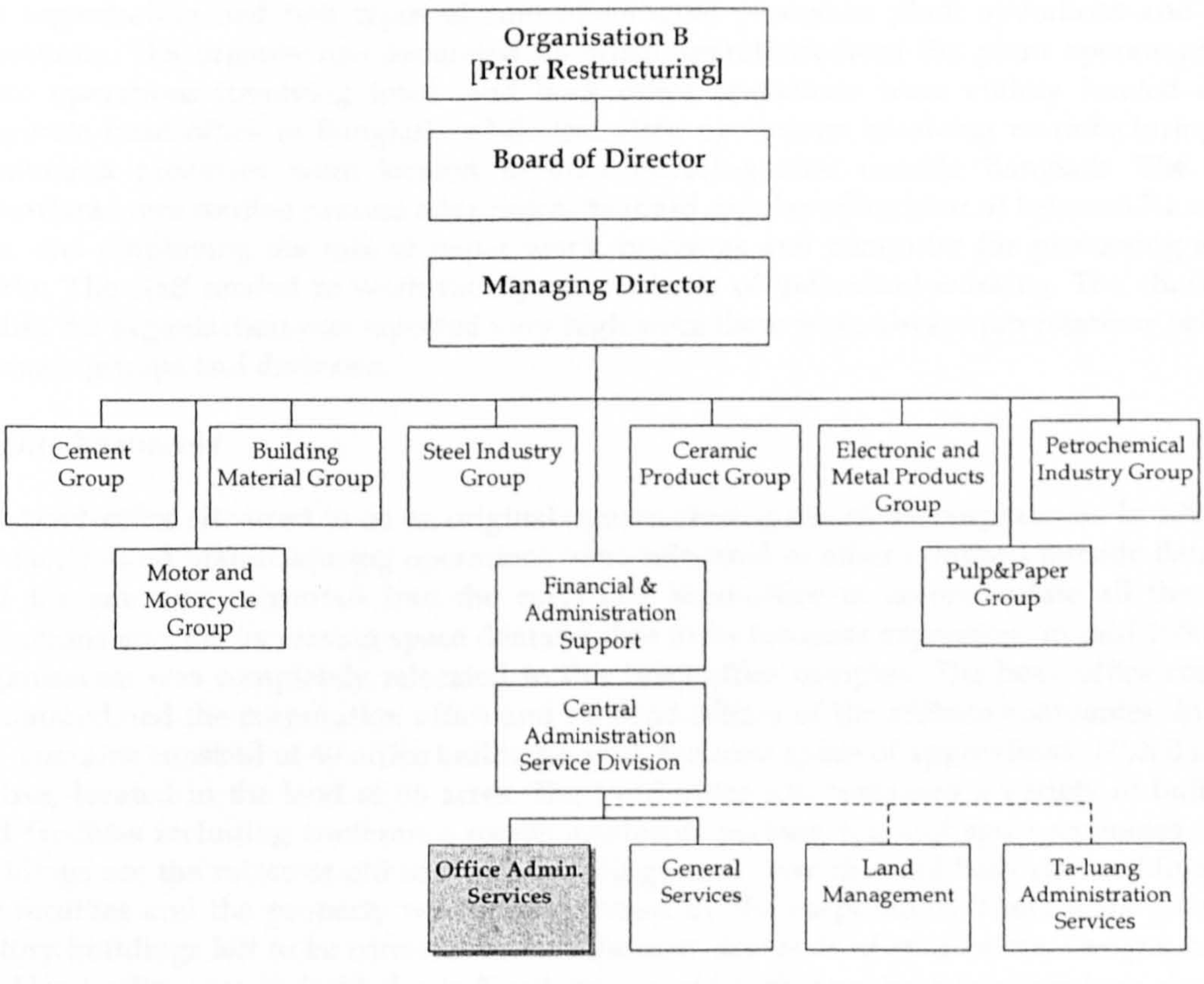


Figure A(8) Organisation Structure before Restructuring

Business Strategies and Organisation Policies

Before the business recession period in 1998, the main strategy of the organisation was to sustain its business growth and expansion in the long term, focusing on producing construction materials for the use in the country and expanding its product exports and

investments in the neighboring country. In term of investment strategy, it determined to diversify its business into related businesses with the best partners in the field, mostly through joint venturing with the successful enterprise in the field. The issues of customer satisfaction and product quality were always the most critical concerns of the organisation. The issue of quality control and assurance was the basic practice of the organisation.

The organisation had a policy in retaining its employees by providing strong individual and family support and generous rewards. It also intended to operate its business with high responsibilities to the nation and the society. These two issues led to the emphases on the issues of employee life quality and welfare and community supports.

All business units shared business resources including head-office facility. The facility resources were considered as a central corporate resource. All the operating and using costs of the facilities were covered and paid by the corporation. The organisation had had policy in gathering all support services in single functional division. The management of all facilities, their services and office services within the head-office complex were under the responsibility of the Central Administration Services (CAS). The CAS was under the supervision of Financial and Central management line which directly report to the President of the corporation.

Work Operations

The organisation had two types of core operational processes; plant operations and office operations. The organisation separated its office operations from the plant operations. The office operations involving front- and back office operations were mainly located at the corporate head-office in Bangkok, while the plant operations involving manufacturing and production processes were located in manufacturing sites outside Bangkok. The office operations were routine process adopting a standard regular office hour of between 7 a.m. to 4 p.m. and employing the mix of paper work, meetings and computer for processing all the works. The staff tended to work mostly on the basis of individual working. The churn rate within the organisation was reported very high since there were always job rotations between business groups and divisions.

Facility Resources

The head-office site used to be an original manufacturing site of the corporation. In 1980s, all the factory and manufacturing operations were relocated to other locations outside Bangkok, and the site was converted into the corporate head-office to accommodate all the office operations and the increasing space demand due to its business expansion. In mid 1980s, the organisation was completely relocated to this head-office complex. The head office complex accommodated the corporation office and all head offices of the affiliate companies. In 1998, the complex consistd of 40 office buildings, with the total space of approximate 60,000 square metres, located in the land of 56 acres. The head-office site contained a variety of buildings and facilities including conference rooms, canteens, parking lot, and sport amenities. These buildings are the mixes of old and new buildings, and low-rise and high-rise buildings. All the facilities and the property were solely owned by the corporation. There were a few old factory buildings left to be converted when the new demands of space arise. Geographically, the Head-office area is divided into North-zone and South-zone by a local road, as shown in Figure A(9).

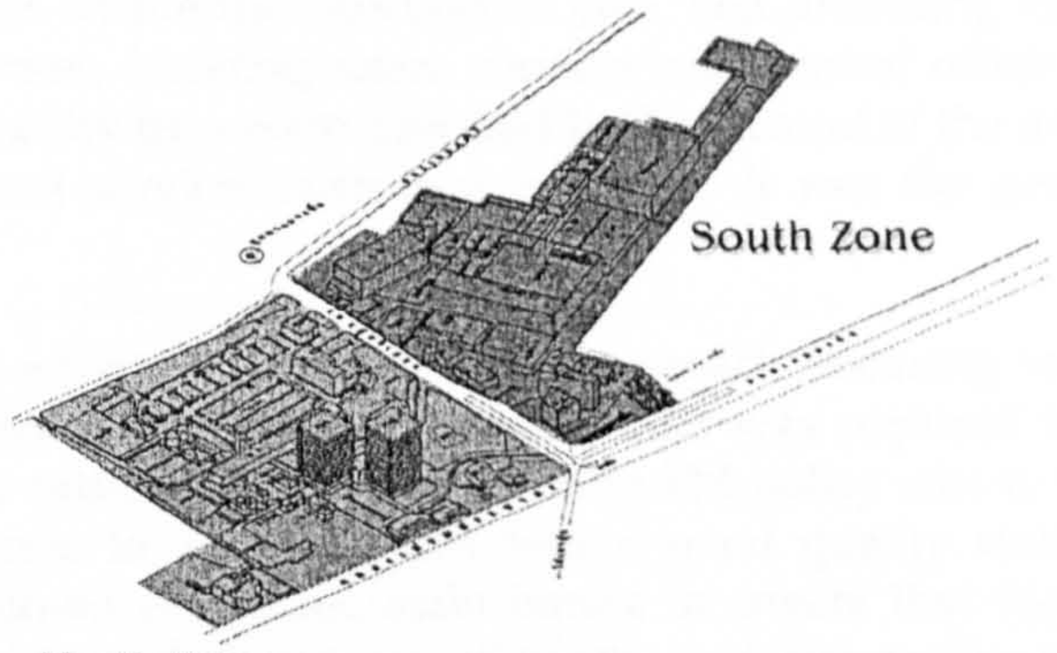


Figure A(9) Head-Office Site

The head-office sites accommodated more than 4,500 permanent staffs of more than 50 companies, and more than 1,500 daily visitors. The primary activities and uses within head-office were office works which involve information processing, data collection, and customer servicing. Facilities, space and support services were the central and shared resources of all business units of the corporation. The corporation was the provider of the central resources for its business units accommodating within the premises of head-office. In term of the importance of the head-office facilities related to the core operations of the organisation, the Vice-President for Finance who was responsible for supervising the operations of FM described the office facility as:

> *'a support resource with medium criticality to the core operations, where its performance and risks might not much affect on the other operations'*

It was told that the occasional failures of facilities operations of the head-office might partially interrupt some of the office operations, but unlikely to cause a serious harm to the core business operations - manufacturing and production, overall. The demand for office space continued to increase over time as new business entities were initiated. This increasing demands of new space would largely be fulfilled by the continuing conversion of old factory buildings within the head-office.

FM Practice

The organisation was well known for its good practice of support service management. The organisation had a Central Administration Support division responsible for all business support and facility services. The FM department was a part of the Central Administration Support division responsible for providing support services of building and offices to all business groups within the area of head office. Its organisational structure composed two main departments: the Office Administration Service (OAS) Department and General Service Department. The Office Administration Services (OAS) department was responsible for handling and providing services for building and office uses in the head-office area, while the General Service department was responsible for the supplement business support services such as business insurance affairs, travelling services, government relation affairs, and office supply procurement. This arrangement had been adopted since the organisation moved to accommodate in this site. The function was considered as a cost-centre operation.

The key department concerning facility management issues was the Office Administration Services department (OAS). The department was responsible for operating and maintaining buildings and facilities within the Head-office area, and providing all office support services covering facility services, building users services and central office services. All costs and expenses related to facility uses were allocated to the account of the department, as it held the budget for the support services costs and expenses. It was the genuine cost-centre of the organisation.

FM practices largely adopted facility-oriented approach, focusing on mid-term and routine issues. It was considered as a support function that was required to complete jobs and to achieve the customer satisfaction target. The main FM policy was to deliver essential facility and employee supports to all employees within good quality standards. The overall FM purposes were concerned with three main issues: to ensure that the facility operations and services were managed and delivered efficiently and effectively, to provide supports for working, and to enhance their life quality while they are in the facility. The department had to ensure that:

- The facility resources were operated smoothly and efficiently.
- The facility resources were maintained in good conditions.
- The services for office and facility supports were provided and delivered at the agreed standard level within the budget.

The practices focused on tactical planning, central routine operational management and services, facility operations and maintenance. All the services were provided on the same standard. A former head of OAS described the primary functions of the department as:

> *'an internal facility services administrator and provider, co-ordinating and controlling facility support services and their service vendors.'*

The department gave high priorities on the continuity of workplace and facility services, the employee comfort, convenience and safety, the efficiency of services, the cost effectiveness, the completion of jobs and action plans, and the satisfaction of the basic needs of the organisation. As the organisation had high concerns with the environmental issues and committed to the society and community contributions, FM was a key function in providing supports for to the surrounding communities. The FM team was mainly concerned with the building construction code and regulations.

Responsibilities and Scope of Services

Based on the corporate policy, the FM team was responsible for the entire physical resources within the head-office complex and all operations, maintenance, and services. The building planning and design were required from time to time when there were needs for building conversion, while the workspace planning and management was required regularly due to the high rate of internal churning. The range of support services of FM practice covered a wide range of facility services and business support services. The scope of services included design and construction management coordination, maintenance & repairs, building operations and services, office services, planning and programming, space planning, and administrative management. These service were grouped into five FM functions described below:

- *Office services* including north-zone office services, south-zone office services, hospitality services and special affairs, reception and telephone-operator, and office furniture services.
- *Office space planning* involving design and planning, and office lay-out planning, space planning and management. This function was essential, as the corporation had had high churn rates.

- *Building engineering services* involving building construction and repairs, building systems operations, repairs and maintenance, and energy management.
- *Security* involving all physical safety and security divided into north-zone security and south-zone security, traffic management, and registration services.
- *Central administrative services* including information services, internal and external mail services, office stationery services, and document storage.

Since there had been building conversion projects all the time – converting old factory to office building. The OAS was responsible for project management, building design and construction management. Mainly the department focused on operations and supervision. It was designated to provide services to support office uses and operations of the corporate business companies.

The FM team was responsible for the annual budget of approximate 140 million Baht. The budget covered the operating expenses of facilities services and support services within the head-office area. The majority of the budget was allocated for overhead, utilities and maintenance and upgrading, as shown in Figure A(10). The overhead expenses were quite high because the staff salaries were paid at the same rate as the business management salaries.

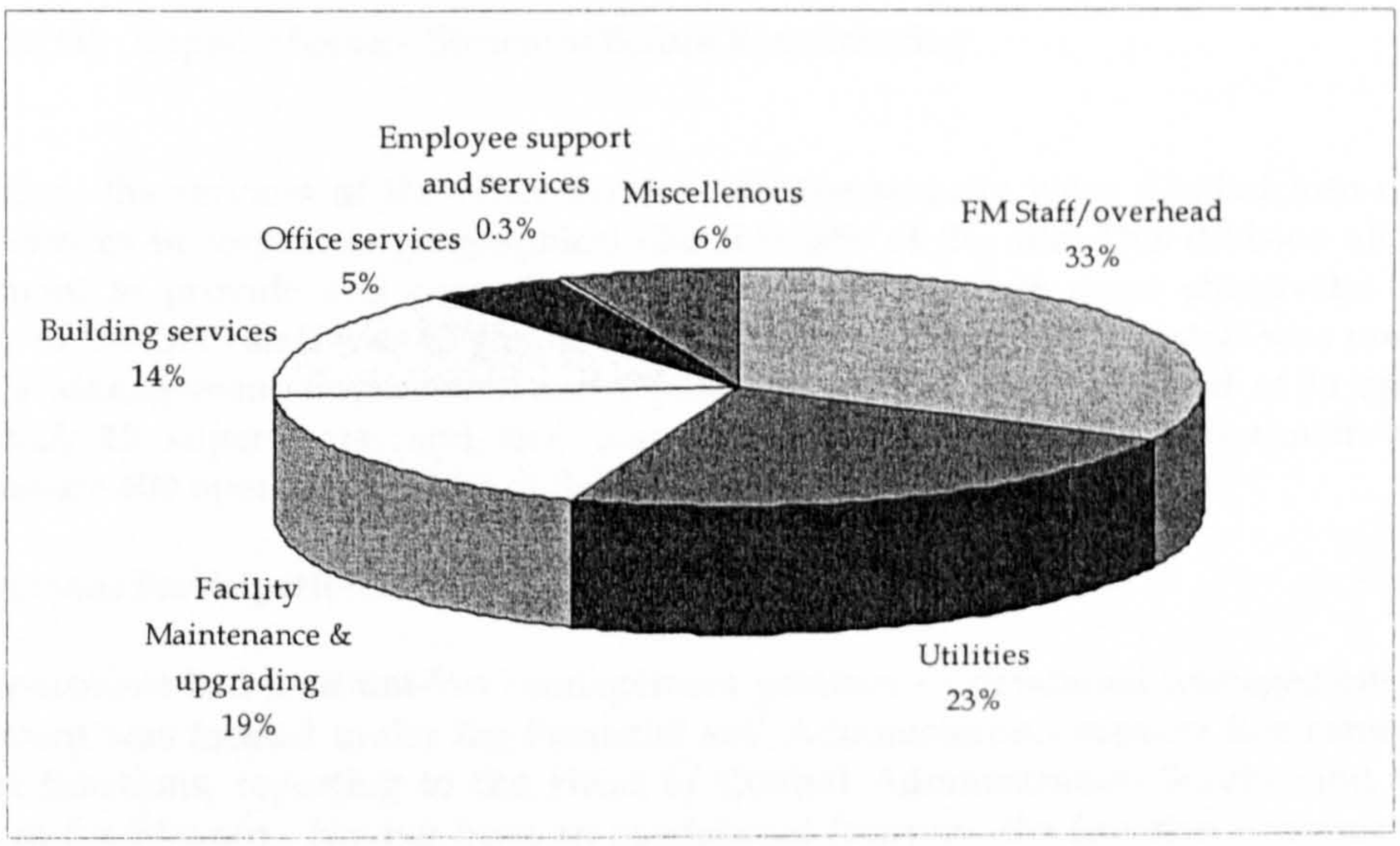


Figure A(10) Operating Expenses of OAS in 2002

FM Organisation

The FM department adopted a functional structure for its organisation. The department consisted of the office services and business hospitality services, the building engineering services, the office space planning, the security, and the information and stationery, as shown in Figure A(11). The groups of these functions were determined based on common skills, knowledge and areas of services.

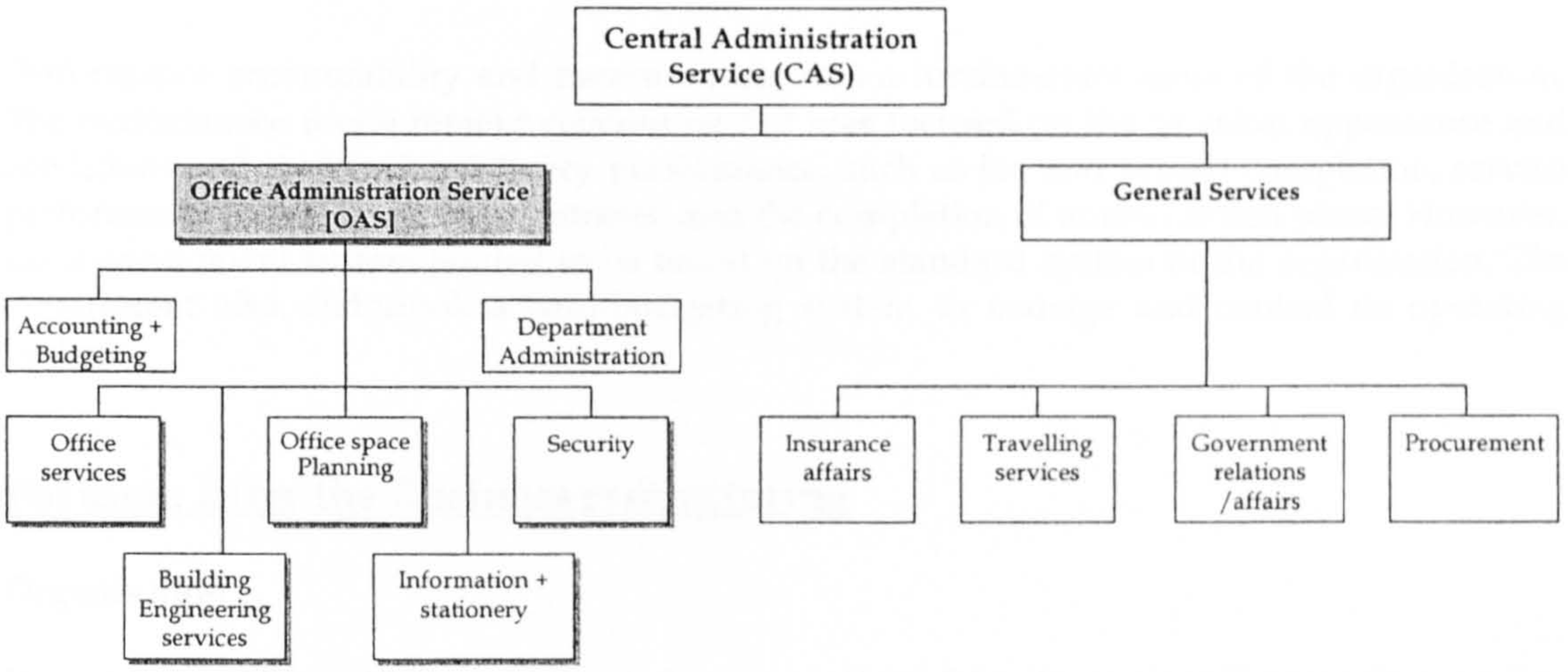


Figure A(11) Support Service Structure Before Restructuring

In practice, the services of the office service and the security were divided into north and south services in respect to geographical characteristic of the site. This division allowed the department to provide and control its operations and services more effectively. The total number of the OAS staff was 48 people in year 2000. As the position of staff was ranked by 3 levels of Management, Supervision and Operation, the FM team consisted of 33 operational rank staff, 10 supervisors, and five management rank staff. The department managed approximate 400 operational staffs of the external service contractors.

Management Participation and Decision Authority

The department had medium-low management position - operational management. The FM department was located under the Financial and Administration support line same as other support functions, reporting to the Head of Central Administration Service and the Vice-President for Finance. Having been an operational function, the function concentrated very much on daily operations with short-term plan. The division would normally have only annual action plans. It participated occasionally in the business management meetings, and provided inputs concerning the development and management of the facility resources and services through the vice president as requested. The department communicated with the business management on a two-way communication basis. The department was entitled to have authority on the service supplier selection and the service contract tendering. However, most of its decisions were mainly concerned with the operational and short to mid-term issues.

Service Arrangement

Delivering the operational and support services by outsourcing arrangement was a preferred option. The option was considered to be flexible and cost-effective to the organisation. Each of the services tended to be provided by a single service contractor. The organisation wanted to retain the management and planning authority of the FM. The department employed partial outsourcing method on the building engineering services where it employed internal engineers to plan and design the required systems. There were a small number of services that were undertaken by in-house staffs such as internal mail distribution services and room reservation services, which there were no external service providers available. A senior FM

staff described the FM skill markets in the past as *'a limited service market with only few service providers available while most service providers were capable of providing a single service'*.

Performance Measurement

Performance accountability and measurement was a fundamental issue of the organisation. The performance measurement concerning FM was focused on the physical appearance and conditions and the service delivery performance, such as job and project completion, service performance based on service contracts, and the completion of annual action plans. However, the measurement system tended to be based on the standard system of the organisation. The department also undertook a zero-budgeting system to manage and control its operating budget.

Position: After the Business restructuring

Organisation

During year 1997 to 1999, the organisation was affected by the regional economic recession crisis like other business organisations. The devaluation of the Thai Baht caused the significant increase of the organisation's overseas debt amount, affecting its financial status and capabilities. The organisation needed profound and pervasive corporate restructuring concerning its business structure and organisational management in order to retain its position in the market, to sustain its business viability, to ensure competitiveness and to build in greater institutional flexibility to handle change and to meet the challenges of the globalising world economy. A number of well-known management and financial consultancy firms were hired to assist the organisation restructure and identify its future directions. The consultants suggested that the corporation needed to be more flexible, focus on profitable core businesses and high potential businesses, and cut off infeasible businesses.

In 1999, the corporation begun the implementation of a 'business restructuring' programme. The restructuring resulted in re-organising the business and organisational structures, selling out the companies that produced non-core products and had profit businesses such as motor and motorcycle, electronic product, diversifying strategic business units into 5 independent core businesses, which were cement, building products, petrochemicals, paper and packaging, and distribution. In the new business structure, an 'Organisation B' was a 'super-holding' corporation acting as the parent company of the other five 'sub-holding' corporations, as shown in Figure A(12). The organisation was responsible for the corporate strategies overall, forming business strategies for each business sector and owning the property assets. There were two new holding companies that were established to be responsible for the former business support functions and the property and FM services. Each business group or the sub-holding corporation had its own president.

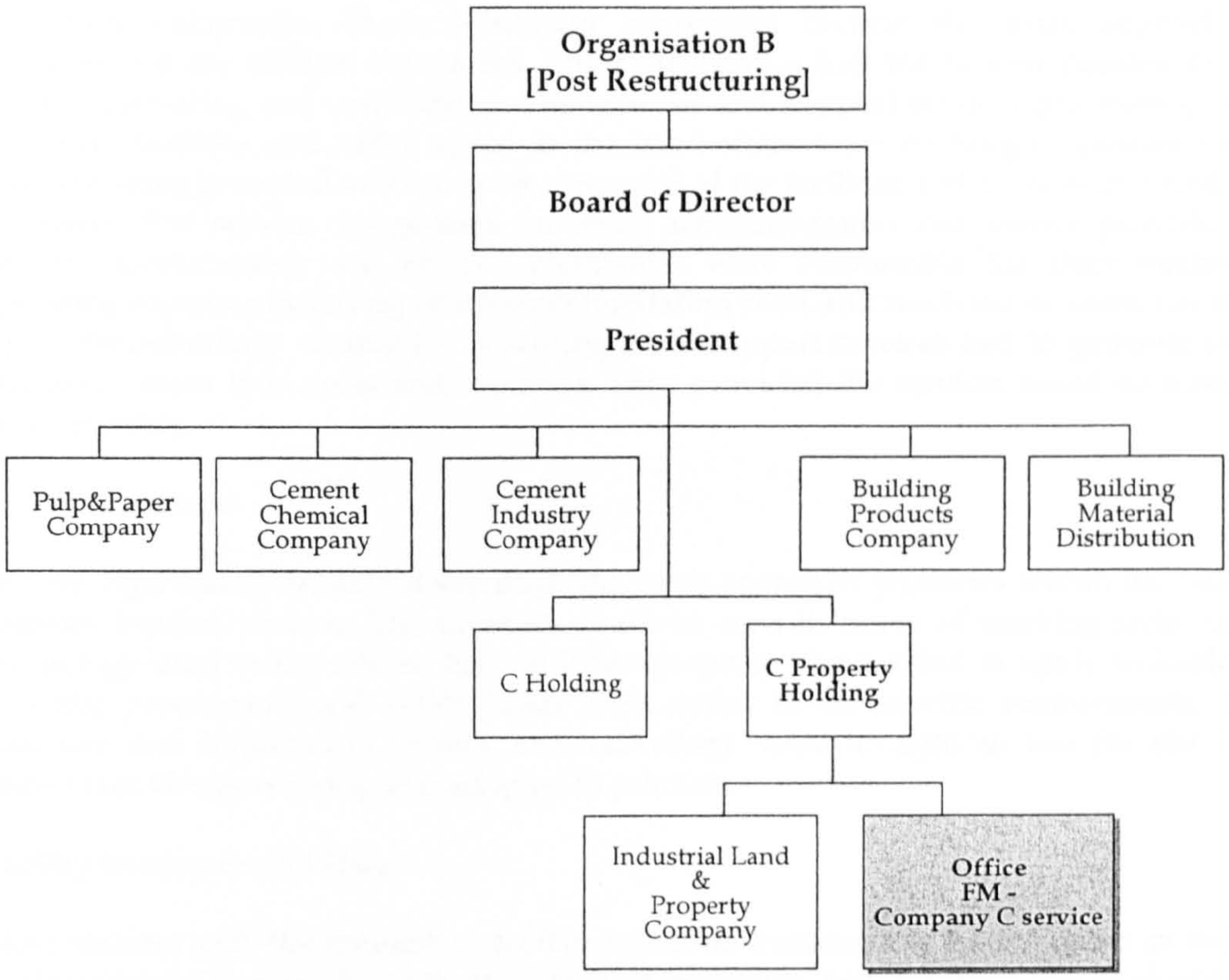


Figure A(12) Organisation structure in 2003

After the restructuring, the organisation retained five strategic business groups consisting of approximately eighty affiliate companies under five business groups, employing approximately 17,000 people and producing more than 64,000 product items in total. The new organisational structure delegates to each business line responsibility for achieving optimum results in concert and in coordination with other business units. After the restructuring, each business unit can develop its own distinctive organisational culture. Nevertheless, it must complement to the core corporate culture. This alteration causes significant changes on corporate cultures and standard services. The organisational cultures and policies on support services and facility quality became diverse. Consequently it affects the facilities provision policies and methods.

Business Strategy and Organisation Policies

During the business recession, the organisation was forced to change its business strategies immediately and significantly. It had to halt its business expansion and investment plans. Then it was forced to reduce its operating costs and expenses as much as possible. It also determined not to lay-off any employee. After the restructuring, the organisation aimed to utilise all business resources for the core businesses, and to enhance the corporation resource management and strengthened its operating fundamentals by focusing on businesses where the corporation has long-term competitive advantages. The main areas of the restructuring included the increase of the core and profitable business performance, the termination or disposing of the unprofitable businesses, the reduction of the burden of central costs by allocating them into the companies using the services, and the spinning off the support functions into subsidiary companies.

The organisation had policy in allowing its sub-holding companies to have their own authority on their business operations, decisions and management. The support functions such as finance and accounting, law, and office administration services, were spun off into subsidiary companies. These subsidiary companies became the main support service providers for the affiliate companies. The restructuring had led to new policies in support services providing and cost sharing. The facilities and support services provision policy was changed. Facilities and office space in the head-office were no longer common corporate resource being provided with no costs. Any uses of the facilities and services incurred costs to the users. The service charge-back on office accommodation and service provisions were literally implemented. All affiliate companies were responsible for their business and operating expenses including office accommodation costs and rendered services. On the other hand, the subsidiary companies providing these support services had to generate sufficient income to cover their costs and expenses. They provided the services based on a non-profit making policy.

Work Operations

As, the organisation became diversified, the work operation processes within the head-office complex became diverse. The diversity could be seen in terms of working style, time and technology used in the offices. Each affiliate company was entitled to apply technology and working procedures, and office hours that suited to its specific requirements. Overall, database and Information system and technology were brought in use for the business operations. Group working was adopted to practice.

Facility Resources and Uses

Most features and the amount of facility resources remained to be the same as before the business restructuring. In 2003, the value of buildings and lands of the head-office were estimated at approximately 2.1 billion Baht. The total costs of Furniture, fixtures and equipment were about 0.9 billion Baht. There were more 50 affiliate companies locating in the head-office area. It was reported that the occupancy rate was approximately 95% in most of the time. The head-office became a commercial office building, while the affiliate companies were treated as the tenants. In turn, the head-office facilities were turned into an income property of the organisation. Most activities remained to be involved with the front- and back-office of the affiliate companies.

FM Practice

A property holding company was established in 2001. This holding company was responsible for managing the corporate industrial land and land banks, and for facility management for the head-office complex. Its main businesses covered industrial land, property management, and office facility management. A subsidiary Industrial Land and property was established to operates three industrial sites, and to maximise the sale and lease of the corporate properties that are available nationwide.

The arrangements of FM operations were altered to respond to the business restructuring and the new policy of resource management and allocation. In order to respond to new resources distribution and management policy of the corporation, managing facilities requires new set of the practice paradigm. Managing facilities and providing support services needed to be customer-oriented. The new company was established to serve the new policy of organisational facility resource management. A new FM company was founded to provide a completely integrated array of convenient, modern, and comprehensive office facilities and integrated and complete service solutions for each individual customer to meet its own service needs and standards, beyond mere standard services. The primary functions of the company were to provide office space with basic services, generate income to cover the operating costs

of the head-office. An integrative role of property and facility management was adopted. Its main priorities were given to achieve the maximum utilisation of the property, buildings, facilities and space within the head-office, controlling and minimising all costs incurred, and supporting the operations of all companies locating in there. The FM adopted the concept of customer-oriented and solution provider-oriented.

Key Issues and Priorities

The main priorities of the FM company were given to tenant retention, service satisfaction, income generation, cost control, and the performance and convenience of tenant business operations. The FM team had to ensure that all facility resources were effectively and efficiently used, all the tenants and their business operations were served, supported, and satisfied, and the office space of the head-office generated sufficient income to cover operating and management expenses. It needed to be more concerned with the more extensive and increasing building use regulations, where there were impending law and regulations of workplace health and safety. The facility operations of the head-office were subject to comply with the energy conservation regulations and needed to have better energy management system. The company had to manage the head-office to be competitive with other commercial office buildings as the business companies now free to choose their office locations and service suppliers as they prefer. Although the corporation implemented the charge-back policy on office space and support services to its subsidiary companies, the aim of the FM practice was not to generate the maximum profit. The corporate business goal and achievement remained to be the key issues of the FM company.

Scope of responsibilities and services

By replacing the old OAS, the company took over the management of all physical assets within the head-office site and all related services except the first aids treatment service, together with environment and site infrastructures. It was also responsible for long-term planning on facility utilisation and development and all user health and safety and convenience within the parameter of the head-office.

As becoming a commercial property management service, the new functions such as customer relationships, quality improvement and assurance, customer relationships and marketing and marketing were added. The FM team was also responsible for group central procurement of non-core material. The procurement covers all sorts of office supplies, inventories, furniture, equipment, and things that are not used as production material.

Supporting the business operations of the corporate companies was more difficult than the past as the affiliate companies were allowed to set their own standards and to require particular kinds of services to suit their needs. Failing to satisfy such demands would result in losing the tenant, and income on the property. In dealing with various demands and needs of subsidiary companies, the company needed to extend its scope of services beyond the basic building services, aiming to be the facility and service solution provider. The scope of work of the FM company was the consolidation of the selective services of Office Administration Services and General Services, covering a wide range of services such as building management, building engineering services, office space planning, building inventory, travelling arrangement, office services, office stationery procurement, and customised services as requested.

The number of management staff increases compared to that of the OAS, increasing to 58 people. There are approximately 400 operational staff provided by the vendors. In the new management regime, managing facilities involved with both income generating and costs expenditure. The head-office space and service provision charge-back generated a turnover of about 445 million Baht per year. The turnover can be divided into rental fee of approximately 300 million Baht, and the service fee of approximately 145 million Baht. The total operating

expenses in running all facilities in the head-office complex were approximately 118 million Baht. The majority of the budget was spent on utilities which include electricity, water and telephone bills, while the facility maintenance and upgrading and building services costs were accounted for 38% of the total operating budget. Figure A(13) illustrates the structure of the operating budget of the HO complex. The net income of the FM company was around 10 billion Baht.

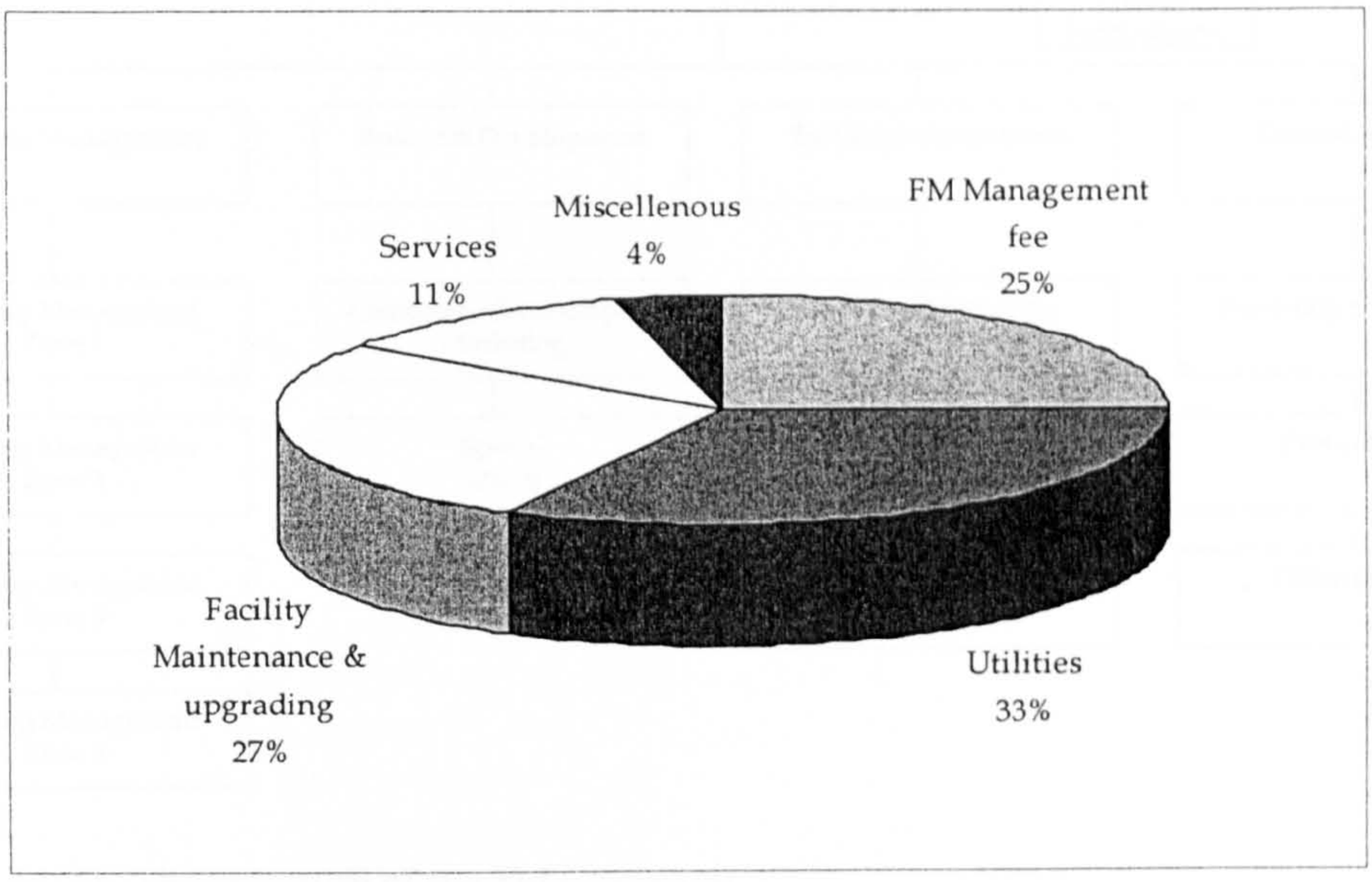


Figure A(13) Operating Expenses of the Head-Office in 2002

FM Organisation

To cope with the new policy, role and mission, the FM company adopted different organisational structure than that of the CAS. This new management structure was intended to used as a strategic tool to enhance the FM service performance. Rather than composing the organisational structure based on function, the company has restructured based on service locations - geography, and key services. The company adopted the matrix organisational structure, divided into core function and site management function, reflecting the new policy of centralised facility planning and management with decentralised operational functions. It was apparent that the new FM organisational structure was more compact and integrative than that of the past CAS. A number of new functions such as customer relationships and marketing, quality improvement and assurance, are added on the structure to support the concept of customer-oriented. In order to provide better services and have better customer contacts, the company decentralised its operational functions. The Building Management function was specifically established having 4 sets of building management teams in order to build a close relationship to the tenants. The FM was structured with 4 core functions including Building management, Business development, Building planning and maintenance, General services, as shown in Figure A(14). Each function covers areas of service as following:

- Building management function involves supervisions and site management.
- Business development consists of customer relationship and marketing, and special affairs.
- Building maintenance function including Building engineering services, office planning and inventory management is situated as central service function.
- Building engineering service plays roles of planner and designer on building operations and maintenance.

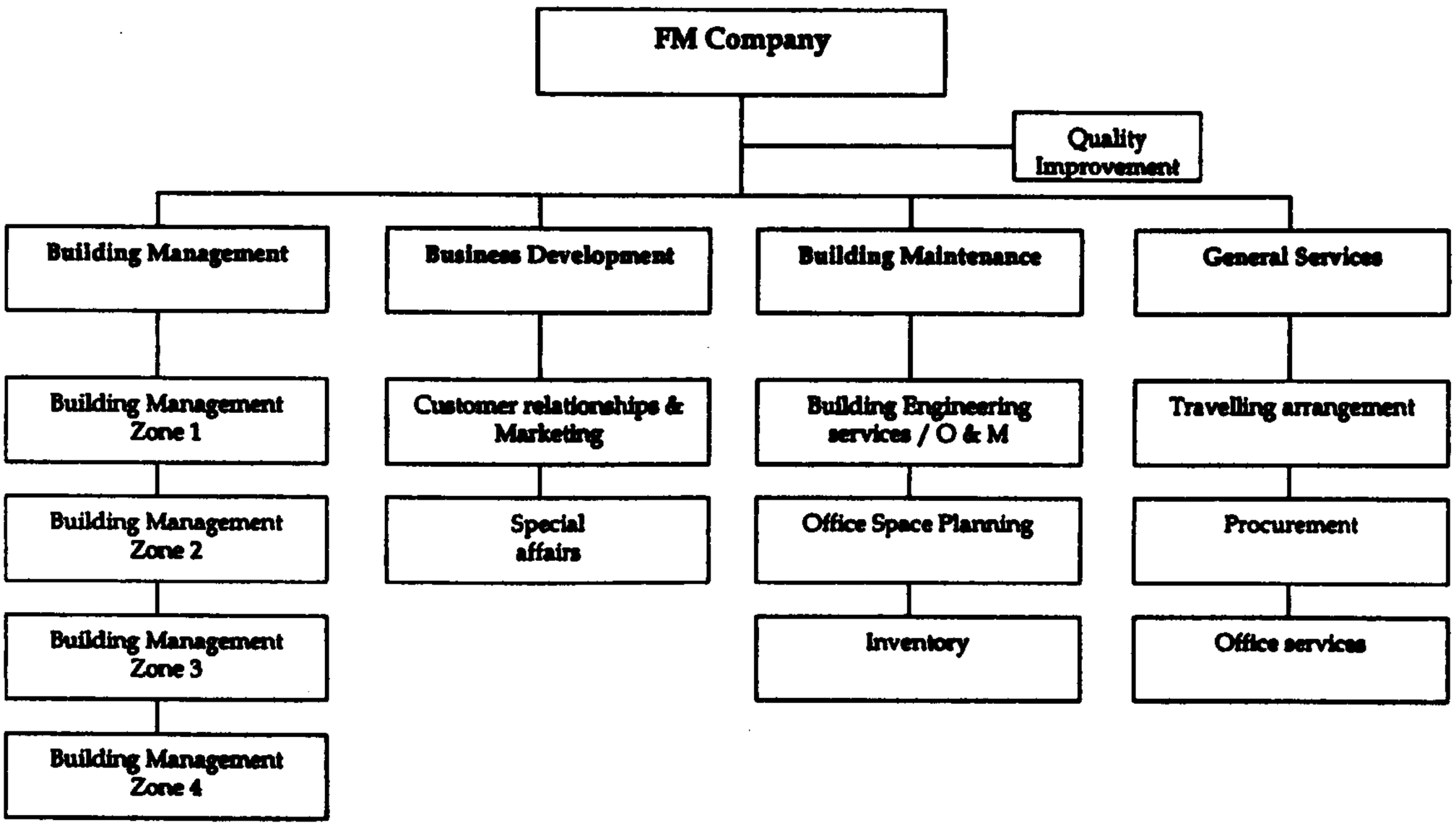


Figure A(14) The structure of the FM Company

Management Participation and Decision Authority

The company had direct access to corporate management and decision meetings, having higher management position and strategic-oriented. It regularly participated in management meetings concerning facility management and property development issues. The company communicated with the business management of the corporation based on a reciprocal basis. It was subject to provide the input and information for facility improvements and developments, and to develop long-term, mid-term, and short-term facility plans. The company was allowed to set out its own annual budget. All the facility service arrangements were under the consideration and decision of the company.

Service Arrangement

In delivering the facility services for the tenants and the head-office sites, the company remained to undertake the outsourcing approach. There were rearrangements of service outsourcing by bundling group of facility operations and maintenance services to a single service provider. The FM company began to take the advantage of more alternative FM service options available in the market and more service providers

Performance Measurement

The company continued to use the operational service assessment by using the outputs of tasks. The operational performance such as service quality, utilisation rate and facility performance. The tenant and user satisfaction would be used as one of key performance indicators. In assessing the performance of the company, a few new indicators, such as revenue target achievement, have been used.

Consequences of the new structure and position

The customer survey in 2003 indicated that the tenants were more satisfied with the services of the FM company than that in the past. This implied that the FM re-oranising resulted in better service performance. The communication and relationship between FM and the service recipients were improved. These two factors were considered as the key success factor of FM in the future. In addition, the managing director of the FM company believed strongly that the FM team could better serve the tenants with more extensive/comprehensive services. it was also told that the new FM organisational structure and management position within the corporation provided the FM team with better capabilities and authorities in supporting the organisation overall.

Case [C]: Facilities and Property Management of An International Bank

Background

The organisation of this case is an international bank that has headquarters in the UK, and has been known as a leading international bank around the world. It employs 28,000 people in over 500 offices in more than 50 countries in the Asia Pacific Region, South Asia, the Middle East, Africa, United Kingdom and the Americas. In Thailand the Bank has been doing its businesses for more than a hundred years, since 1894. It is the oldest foreign financial institution in the country. Before 1999, the bank had been operated as a Thailand division of Singapore branch, facilitating corporate banking services for international clients. Initially, the Bank focused on corporate banking since in the past the government allowed foreign banks to do only limited banking services and to have only a single office. During 1997 to 1998, the country faced a major economic crisis causing significant turbulent to all local banks. After the crisis, foreign banks have been allowed to merge with the local banks and to provide the full range of services. The Bank took this opportunity to merge with a small local bank and to expand its banking services/businesses in Thailand. Since 1999, the Banking business in Thailand and the operations of the Bank had changed significantly. After the government decided to allow foreign banks and financial institutions to joint venture with local banks and offer full consumer banking services as local banks. The Bank decided to merge and take over the operations of a local Bank. The Bank expanded its businesses to cover both wholesale banking and consumer banking, and focus much more on local market. The merger led to significant changes to business operations and support service requirements. There were expansion in business operations and services, and increase of staff, customer and facility resources. These changes directly affected facility management practice of the bank, leading to its significant change.

Position: Before the Merger

Organisation

Before the merger in 1999, the organisation was a Thailand Division of the Singapore branch. The operations of the Bank were confined its business services in only corporate banking. It mainly focused on institutional and multi-national clients. Its business concentrated very much within Bangkok Metropolitan Areas where most corporations located their head-offices. It had quite small operations. With the limited business operation, the Bank did not have branch office. All services and operations were conducted at the head-office. The total number of the staff was around 400 people. The organisation was largely in stable period having small and limited business operations and services.

Business Strategies and Organisation Policies

As the country division, the bank focused on the corporate banking services, international and corporate clients especially within the Bangkok area. Banking was a restricted business then, where foreign banks could operate only partial services. As a divisional bank, it business operations were kept small and compact. It was told that the Bank intended to retain the low amount of fixed property assets in order to maintain its business operational flexibility and agility. The operations in Thailand applied the corporate/global and regional policies, standards and guidelines, emphasising on customer safety and security issues. Generally, outsourcing was a preferred approach for its all support services.

Work operations

The organisation's size was relatively small at that time, with partial banking services provision and limited business operations with no retail branches. The work operations relied the use of computer and telecommunication at the moderate level. The operations in Thailand were under the supervision of the Singapore branch. Most customers were corporate clients. There were low customer interfaces at the office.

Facility Resources

Due to small and limited operations, the organisation required a relatively small office. Before the change in 1999, the organisation rented a single office in a first-class commercial office building with short-term leasehold of three years, located in the CBD of Bangkok. The office occupied 4 floors of the building, with approximate 5,000 Sq. m. All building services, including facility operations and maintenance, cleaning, security, pest control, had been provided by the building landlord as inclusive services. All standard building services, such as cleaning, security and building services maintenance, were provided by the property management team of the building. The rent including services cost the Bank about Baht 46.8 million a year. At the time, this office served for both front- and back-office operations within the office. There were moderate customer interfaces occurring in the office, but not very busy. The office facility was considered as the support resource of the organisation.

FM Practice

The Central Service Division was a main function for providing general business supports, responsible for general purchasing, providing cleaning the premises, maintaining the premises, keeping the security system, and approval all premises bills. The division comprised three main functions: administration, facilities and property management and security. The administration and security were more active functions than the facilities management. Since property services and maintenance were included in the building services. And there was only single office. Security within the Bank's area, including security guard and system, and fire safety, was supervised by the security department. The security department was responsible for overall business security and risk, and office safety and security.

The arrangement of FM function was quite informal since the facilities and property management function did not really need to be active. FM had a limited scope of works and responsibilities. Its main works was concerned with lease negotiation and contract monitoring. Thus the head of the division handled the property management issues by himself. Facilities and property management was only a sub-function at that time. The characters of the task were very much routine with annual and short-term plans. The aim of the function/service was concentrating on support the regular needs of the bank operations

with smoothness. In managing facility at this stage, FM team was to ensure that the organisation had an appropriate and sufficient office space for its operations, and to provide sufficient supports of facility services. In addition, the FM team must ensure that the services of the building have been delivered as contracted. The FM team undertook a function of facility coordinator and property representative for the organisation in dealing with the property management team of the building and its service contractors.

The priorities of FM were emphasised on achieving the best deal of the property leasing, and providing necessary services such as office churn from time to time. It aimed at assuring the steadiness of service delivery, and fulfilling the basic needs in property/office issues. The issues of health and safety of the organisation's employee and customers, and budget control were also concerned. Accommodating in a prime office building with all inclusive and high quality building service reduced the concerns of the organisation on the building maintenance and services.

Responsibilities and Scope of Services

The scope of facility covered only the office area rented in a commercial office building. Mainly it handled property lease and services and facility operations and service of the bank's office. It was the coordinator of the Bank on the issues of building operations and services, including cleaning and housekeeping services, and facility operations and maintenance. As mentioned earlier, FM was not responsible for the security services. FM team was allocated with a fixed budget for property leasing and related support services of about 47 million Baht annually. Since most building services were inclusive, their costs and office rents were directly paid by the Bank. As the small business division all the costs were covered and paid directly by the bank, there was no formal operating budgeting allocation.

Management Participation and Decision Authority

Its management involvement then was tentative as it was semi-operating. FM was included within the works of CSD office under supervision of the division head. It had limited decision-making authority. Mostly its decisions were concerned with routine and operating tasks.

FM Organisation

The FM department was located within the Central Service Division. During this period, the department was not formally established as a department. It was an FM team under the supervision of the Head of the division, as shown in Figure A(15).

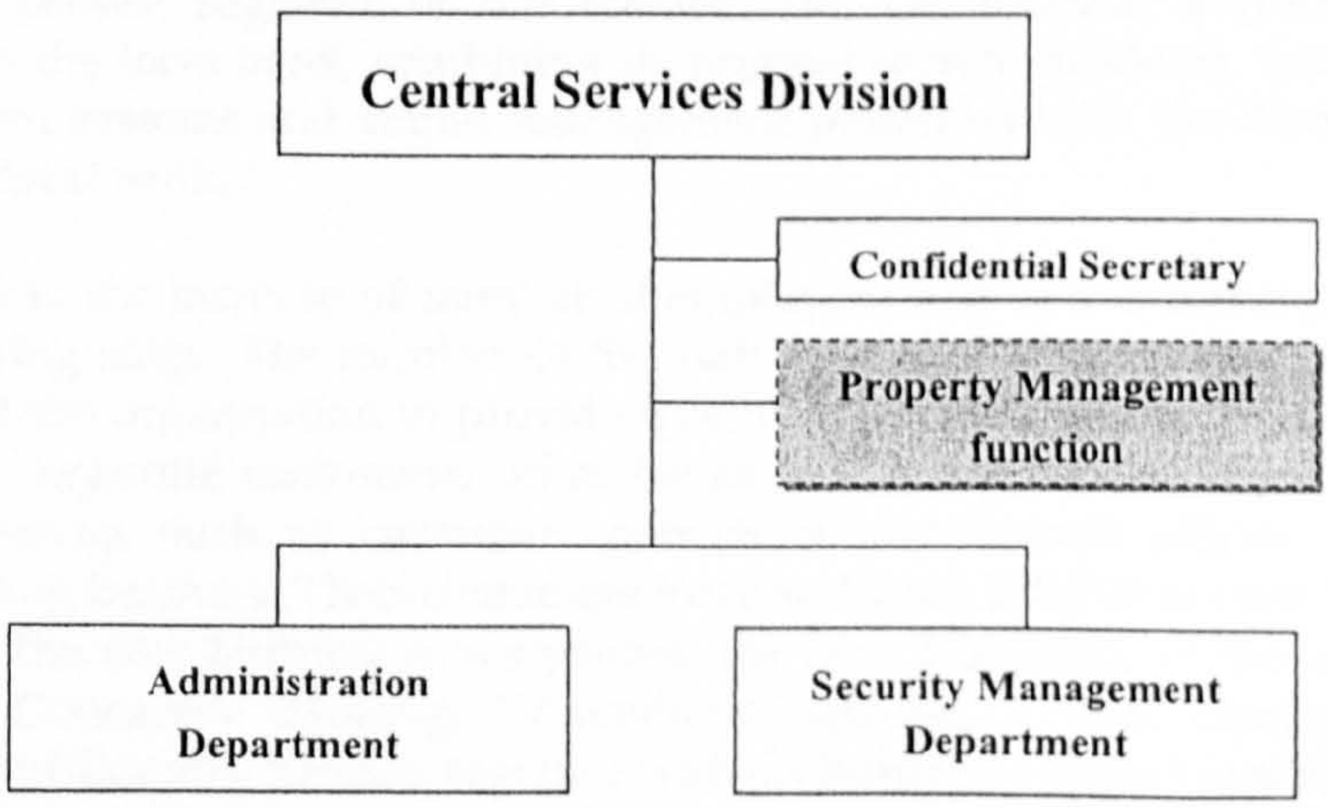


Figure A(15) The structure of CSD before the merger

Service Delivery Arrangement

Outsourcing was the main method. It served the bank well as it operated on divisional basis. The outsourcing can be seen in two groups. The first group was the building services that were services provided by the landlord/building. The second group included the services that the Bank had procured by itself for specific needs such as internal security, office housekeeping, etc.

Performance Measurement

The FM services were treated as typical support service within the Bank. The FM performance was evaluated on value-to-money and target achievement annually. Therefore the performance measurement then were about budgeting control and service performance of the service provider.

Position: After the Merger

Organisation

In the late 1990s, the economy of the country was the recession period. Many financial institutions were closed and out of business. The government decided to restructure the economic system of the country, particularly financial sector. The government had initiated the bank restructuring program by allowing foreign banks to joint venture with local banks that were under crisis/had business difficulty. Consequently, many rules and legislation were relaxed in order to recover the business and economy, including those of banking business. The new regulations allowed foreign banks to merge with local bank if they want to provide the full services of consumer banking. The organisation took this change as an important business opportunity to expand its business in consumer banking sector.

In 1999, the bank made a strategic business move by acquiring share of a local bank, in order to expand and improve its business services and products. The local bank was a small-medium bank that provided banking services and operations throughout the country, concentrating on consumer-banking business. Main objectives of the merger were to strengthen growth of business with a provision of products and services of international standard to customers and to build up the bank as a leading commercial bank in the country, and to improve the organisation's competitive position by gaining market share and investment in chosen segment of the market. The organisation acquired a 75 percent shareholding in the local bank, combining its original service products, modern technology, risk management systems and sound management principles with the distribution business network of the local bank.

The merger led to the increase of number of employees and assets, turning the organisation into a diversifying stage. The number of the staff increased to more than 2,000 people. The merger enabled the organisation to provide a comprehensive range of products and services to individuals, corporate customers, other banks and investment institutions, equipping it with new resources, such as customer connections and branch offices, in operating the consumer banking business. Their customers increased from 100,000 to over 500,000 in a short period. Within the new business management, the core businesses of the organisation were comprised of Consumer banking, Commercial banking, Global markets, Group asset management, and Country finance, together with six business support functions of Legal, HR, Technology, Corporate affairs, Audit, and Central services. Its organisational structure after the merger is shown in Figure A(16) below.

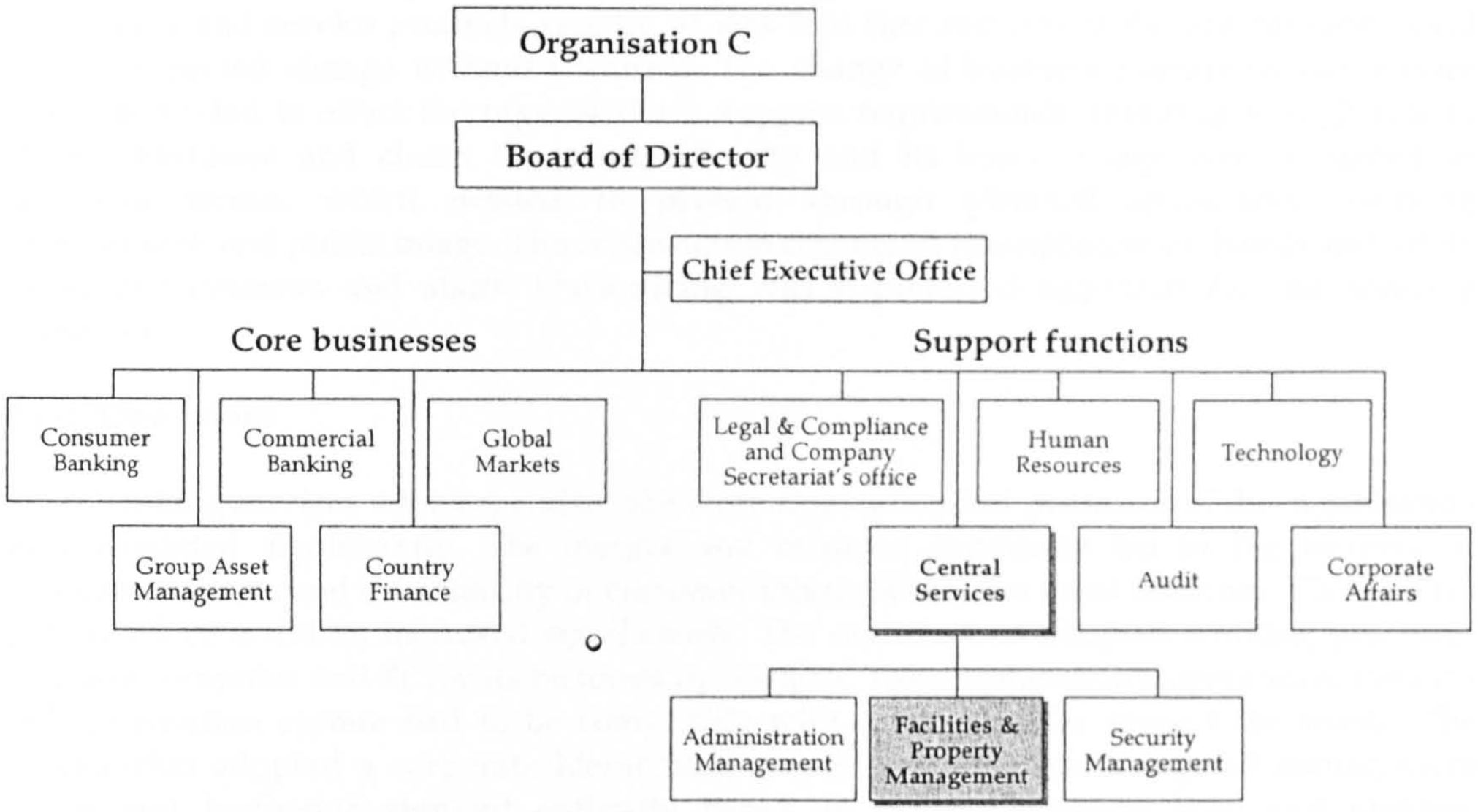


Figure A(16) Case C Organisational Structure after Merger

The organisation adopted corporate international standards and culture to the whole business operations. The management of the Bank after the merger was structured in 3 levels: Corporate/Group, Region, and Country. The Group provided global business strategy and corporate standards on practices and methods, while the Regional office controlled the operations of affiliate banks in each country within that region. In this case, all operations in Thailand and Southeast Asia region are reported to the regional office in Hong Kong.

Business Strategies and Organisation's Policies

After the merger the bank began to provide a comprehensive range of banking services, including Wholesale and Consumer Banking. Consumer Banking involved the services and businesses of credit cards, personal loans, mortgages, deposit taking and wealth management services to individuals and small/medium sized businesses. The Wholesale Bank involved the businesses of financial services for multinational, regional and domestic corporate and institutional clients, such as financial trading, cash management and custody, foreign exchange, interest rate management and debt capital markets. As a result of the merger, all property assets and retail branches of the local bank were transferred to the portfolio of the organisation. The organisation attempted to make the best use of all resources it gained from the merger, including the use of local network and local branches.

The organisations focused on a selective range of customers and businesses that could generate high and quick investment returns. One of the main business strategies was to focus on banking markets and customers in Bangkok and large cities only. The number and location of the branch offices needed to be adjusted to fit with the new business strategy. Only forty-one branches were selected to continue their operations. In turn, a number of branches outside its strategic locations needed to be closed down. The redundancy of these facilities incorporating with the intention of organisation in holding a minimum amount of fixed asset led to the implementation of property 'sale-lease-back' programme.

It was told that the organisation emphasised on fast operations with quick decision making and changes in order to respond effectively to the volatile characteristics of its business sector.

So the organisation intended to have shorter-term business plan, up to 3 years, rather than typical five-year business plan. This allowed the organisation to be able to adjust and change its business and service products rapidly. It was told that sometimes the organisation could have unexpected change without planning. The change of business operations and service products tended to affect the organisation's support requirements, resulting in high rate of office adjustment and churn. Corporate identity and its brand image were regarded as important issues, which needed to present through physical appearance, working environment, and public image. The organisation continued to emphasise on health and safety issues of customers and staffs. Outsourcing was a preferred approach for the non-core operations.

Work Operations

As its banking services were expanded, the work operations and processes of the organisation were extended significantly. The merger and business expansion led to the increase of customer contacts and the intensity of customer interaction at the retail branches. The amount of front-office activities increased significantly. The organisation adopted working processes by using computer and IT for its business operations. The organisation's operations, systems and information system had to be compatible with other affiliates around the world. The organisation adopted a corporate hierarchical power structure and delegated management power and budgeting sign-out authority based on the management level and ranking. Although the organisation was a multinational bank, it had a small number of foreign staffs. The regulation of the Bank of Thailand allowed the foreign banks to have no more than 20 foreign staff.

Facility Resources

The business merger led to the significant increase of property asset and facilities, as mentioned earlier. The organisation had acquired the head-office of the local bank located within the perimeter of CBD area, and 67 branches in Bangkok and other cities. The total area of branch office was approximate 40,000 Sq. m. Table 5(5), in Chapter Five, page 105, shows the changes to the capacities of facilities of the bank between 1999 to 2003. In 2000, the organisation's head-office was relocated to the head-office of the local bank merged with. The head-office was located in a large condominium-office complex, with the total space of approximately 23,500 Sq. m. As located in a condominium office, the organisation owned the freehold of its occupied office space and co-owned the common space and facilities of the complex with other corporate residents. These common space and facilities were managed by the juristic organisation of the building. The juristic organisation was responsible for management and maintenance of all common facilities and space, hiring a professional property management company to provide the basic building and accommodation services such as lift and air-conditioning system operations and maintenance, cleaning and security.

In year 2003, the branch retail offices are reduced to 41 branches including the main branch at the head-office and micro branches. The total area of branches was reduced to approximately 21,000 Sq. m. Most of branches were located within Bangkok vicinity area, only 7 branches located outside Bangkok. The branch offices were accommodated in three building types, which are building, shop-house or lease space, with diverse building types, locations and tenures. There were two types of ownership on branch buildings: freehold and leasehold. Apart from these office facilities, the organisation also acquired the non-performing loan assets which were foreclosed from the indebted customers from the local banks. These foreclosed properties consisting of various types of buildings needed to be maintained before being sold out in due course.

The head-office was mainly the accommodation of the back-office operations, where the retail branches were the front-office facility with the high intensity of customer contact. The physical resource became more important, as the operations in the branch offices were crucial to the

core business operations and the head-office became liable for health and safety of a large number of employees.

FM Practice

The FPM department was fully developed in 2000 in order to cope with the increase of property, space, users, and amount of service works. The development of FM department was undertaken based on the corporate guidelines for property and facility management practices. The guidelines described general FM scope, responsibilities, authorities, and standards of practice. A veteran property manager was recruited from a high-profile professional property management firm to be the head of the property and facility management department. Figure A(17) shows an overview of the Facility and Property Management Department after the merger.

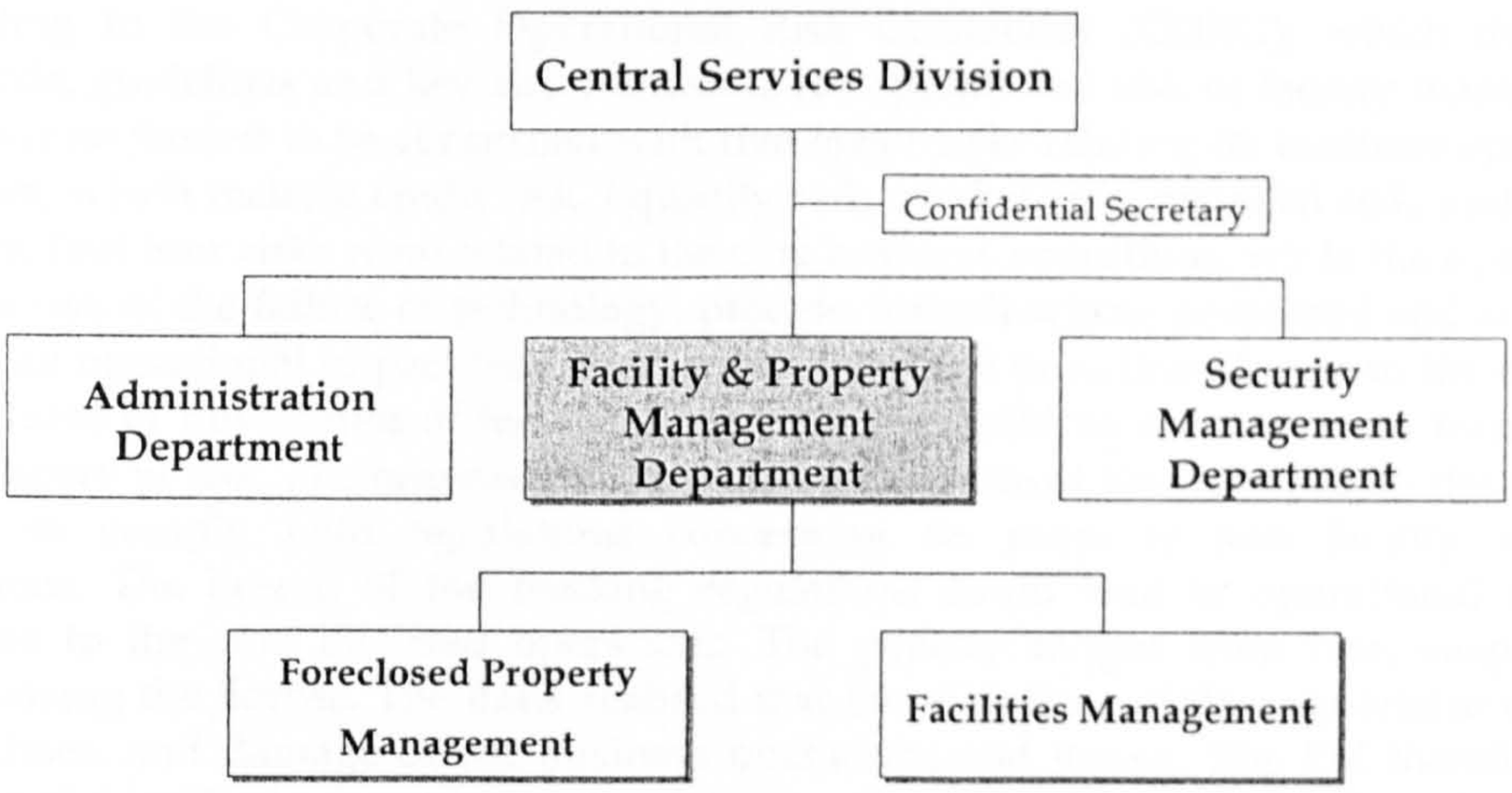


Figure A(17) The organisational structure of CSD

The FPM department became the central unit for managing and operating all facilities and utility systems, having the main role in monitoring and evaluating performance of service contractors. FM was concerned with providing sufficient space, building services, and services that were required for the business operations, in terms of quantity and quality. The role of FM involved being a coordinator of all facility services and the representative of the organisation on the property issues. Overall, the FPM department was designed to comprise of two key main areas: facilities management and foreclosed property management. The functions of FPM were divided into two sides. Facilities management was concerned with the organisation's buildings and facilities, while property management involved handling foreclosed property.

The main purposes of FPM after the merger were to provide sound and supportive facilities and services for the operations of the Bank, and to manage and control facility resources and services in the workplace. It aimed to retain the facility resources in good conditions for business operations support, security and safety, working and the organisation's public image, and to provide adequate support services for building usage and office operations. It has adopted a typical concept of facility management oriented to business and customer support. FM tended to undertake reactive actions in response to the business requirement and operation changes. Normally, the department was informed the facility plans after the final decision of business plans. In addition, it was quite difficult for the FM team being proactive to the change and planing for the long-term business support since the business plans and operations tended to change in a very short period. As the FPM Head said:

"it will be waste, rather than useful, in preparing facilities for uncertain business plans. Quick response to the needs of the moves seems to be a sensible action of the FPM".

The key priorities for the FM department were concerned with the consolidation the head-office operations into the new head-office, involving the relocation of the former two head-offices and the re-accommodation of the business units inside the new building. The key operational issues included H&S of Bank's employee and customers, budget control/cost-efficiency, and achieving technical standard and services quality. Later, after the intensive activities of property transferred and office relocation during the merging period, the organisation intended to stabilise the size of its business operations and facility requirements for the next few years. The number of branches would be kept stable for the near future. In turn, the number of property affairs decreased significantly, while FM became to focus on the operations and maintenance and building services.

According to the Corporate Operational Risk Guidelines (CORG), which described the standards, guidelines and key risk indicators for operational risk of facility management, the organisation tended to be concerned with five major risks relating its business operations and activities, which include credit risk, liquidity risk, market risk, financial risk, and operational risk. The first four risks were related to the core business operations, while the operational risk was the risk of the failure of technology, process, infrastructure, personnel and any other risk having an operational impact that could incur the direct or indirect losses to the organisation. The failures or downtimes of facility operations and building services were included within this category of risk. The organisation was also well aware of the risk of liabilities arising from failure to comply with regulations concerning its property and facility management operations. The breach of the banking regulations could lead to operational risk causing damages to the core business operations. The penalty ranges from fine, suspension, and withdrawing the license. The Bank realised that the violations of the regulations can result in heavy fines, and damage of the business operations and image. The FM therefore must be very careful with this issue, and tried to prevent this risk by following the regulations precisely, and reporting all its property activities accordingly.

Responsibilities and Scope of Services

The responsibilities of the department covered all property assets of the Bank including Bank's owned buildings and facilities and foreclosed property. The FM department was responsible for all physical resources used in business operations of the Bank and the management and liquidation of the foreclosed property. The FM department was responsible for providing the comprehensive facilities services, issuing invoice and rent collection, and accommodating tenants, and the health, safety and security of the user within the buildings. The FM was responsible for the procurements of the technical components for the building operations and maintenance since the activities required specialised technical expertise. The property management function also provided the property and price comparison analysis and recommendation on the property price for other business units.

The department was responsible for providing the services for all premises of the organisation, at the head-office and branches. Its services covered the operations and maintenance of air-conditioning system, electrical system, water supply and sanitary system, the minor office renovation, the building construction project, the cleaning and maid Services, the provision of office equipment, the pest control, and the churn management and services. These services were grouped into six groups as following:

- *Head-Office and Branches Facilities services*: head-office and branches facilities services were concerned with technical operations and maintenance of mechanical and electrical (M&E) systems of these buildings, monitoring and providing advice to the building engineering service vendors, and providing emergency or minor repairs. In providing the services, the

facilities services were divided into the head-office services and the branch services to cope with the different characteristics of building systems.

- *Churn and Cleaning services*: Churn was responsible for relocating staff and furniture inventory arrangement. The tasks of churn were divided into head-office churn and branch churn. The head-office churn involved the internal department office and staff relocations, and the extension and reduction of office space. The branch churn involved the closing and relocation of branch offices, including office close planning, sorting and packing office assets and documents, assets storing, selling out the unwanted office assets and furniture, moving and transporting office assets, and sealing the building accesses. The churn section was also responsible for space management and planning. Housekeeping and cleaning function was responsible for controlling and monitoring the services provision of the vendors.
- *Administration and utilities support services*: Administration and utilities support services function involved all kinds of administrative works such as corresponding with the Bank of Thailand, cost tracking and monitoring, and negotiating and renewing lease agreement.
- *Property project management*: This function involved with with all property project management of facilities services. It is also responsible for recruiting necessary consultants in the project, coordinating among consultants, businesses and contractors, and ensuring the projects were completed in according to the organisational business requirements and standards.
- *Facilities helpdesk and booking services*: This function involved receiving, forwarding and distributing service orders to all related functions. It also conducted service analysis in response time and outstanding works.
- *Foreclosed property management*: This function involved the services of providing primary facility services and management to the foreclosed property, preparing property report, reviewing property consultant recommendation, assisting the decision-making on and facilitating property disposal, and supporting information on property market, managing and disposing foreclosed properties, and negotiating lease and handling legal issues for closed branches, new branches opening, and Operational branches in term of lease negotiation.

However, there were some systems and equipment that were operated and managed by other unit. For example, the installation, operation and maintenance of IT, computer, server, and communication systems such as telephone, fax and PABX, were under responsibility of the IT department. Since these systems are all integrated in the IT system of the Bank. The security function and equipment, such as fire system and alarm, remained under supervision of the Security and Risk Management department, covering physical security and business operation loss prevention, i.e. policy and banking risk.

FM was considered as a crucial function in minimising these risks. The role and responsibility of FM concerning 'Operational Risks' was stated in the organisation's policy. The operational risk issues concerning facilities and property management included due diligence, local legislation, corporate and social responsibility, leaseholds, insurance, ethical standards, project risks, building condition, relationship with the service vendors, environment and local infrastructure, physical security, building emergency, contingency planning, property data. However, it was told that to some extent handling these operational risks was difficult to the FM department as the physical security and the building emergency systems were belong to the responsibility of the Security Risk Management department.

Similar to other large organisations, the organisation implemented service charge-back scheme for the office space and support services in order to allocate costs back to the users and enhance the efficiency of resource utilisation. This enabled the FM to generate its revenue of approximately 240 million Baht a year. The department was allocated with approximately 220 million Baht for annual operating budget. More than 50% of the operating budget were spent

for the utility costs and the office services, such as churn and cleaning, costs. Figure A(18) shows the profile of the operating expenses in 2002.

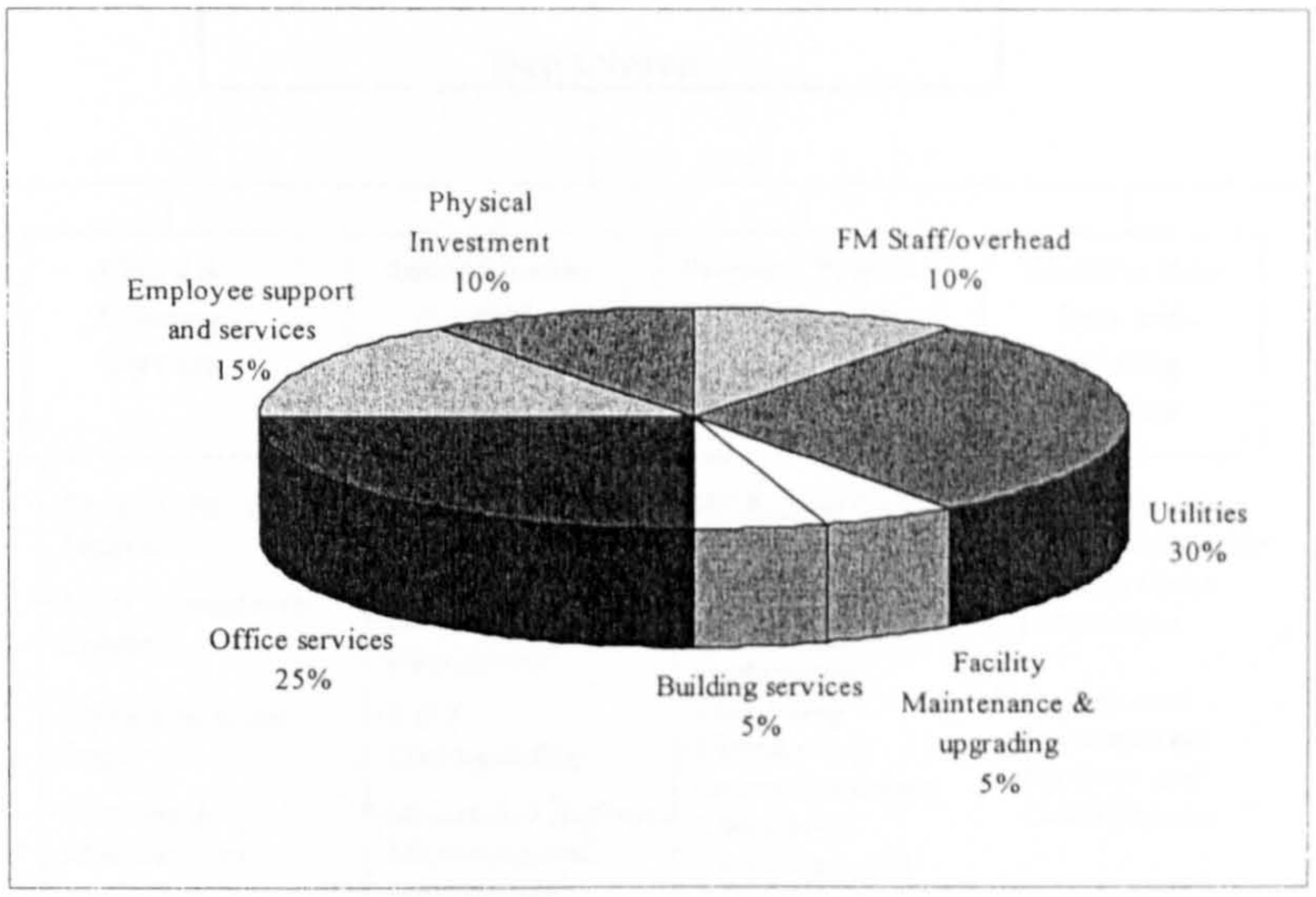


Figure A(18) FM Expenses in 2002

Management Participation and Decision Authority

The department was located in the middle-management position on the organisational structure. The head of FPM directly reported to the head of central service division, cooperating with the business management based on two-way communication basis. According to the corporate policy, the department was empowered on selecting and tendering facility services contracts, and entitled to propose and set out the annual investment and operating budget. The operations and performance of FM also had to be reported regularly to the regional property director, while the value of property portfolio had to be informed to the global property management at head-office in UK from time to time.

FM Organisation

FPM adopted the functional structure based on the type of services, having six functions: Head office and branches facilities, churn and cleaning services, administration and utilities support services, property project management, facilities helpdesk and booking services, and foreclosed property management. Figure A(19) shows the structure of the FM department after the merger.

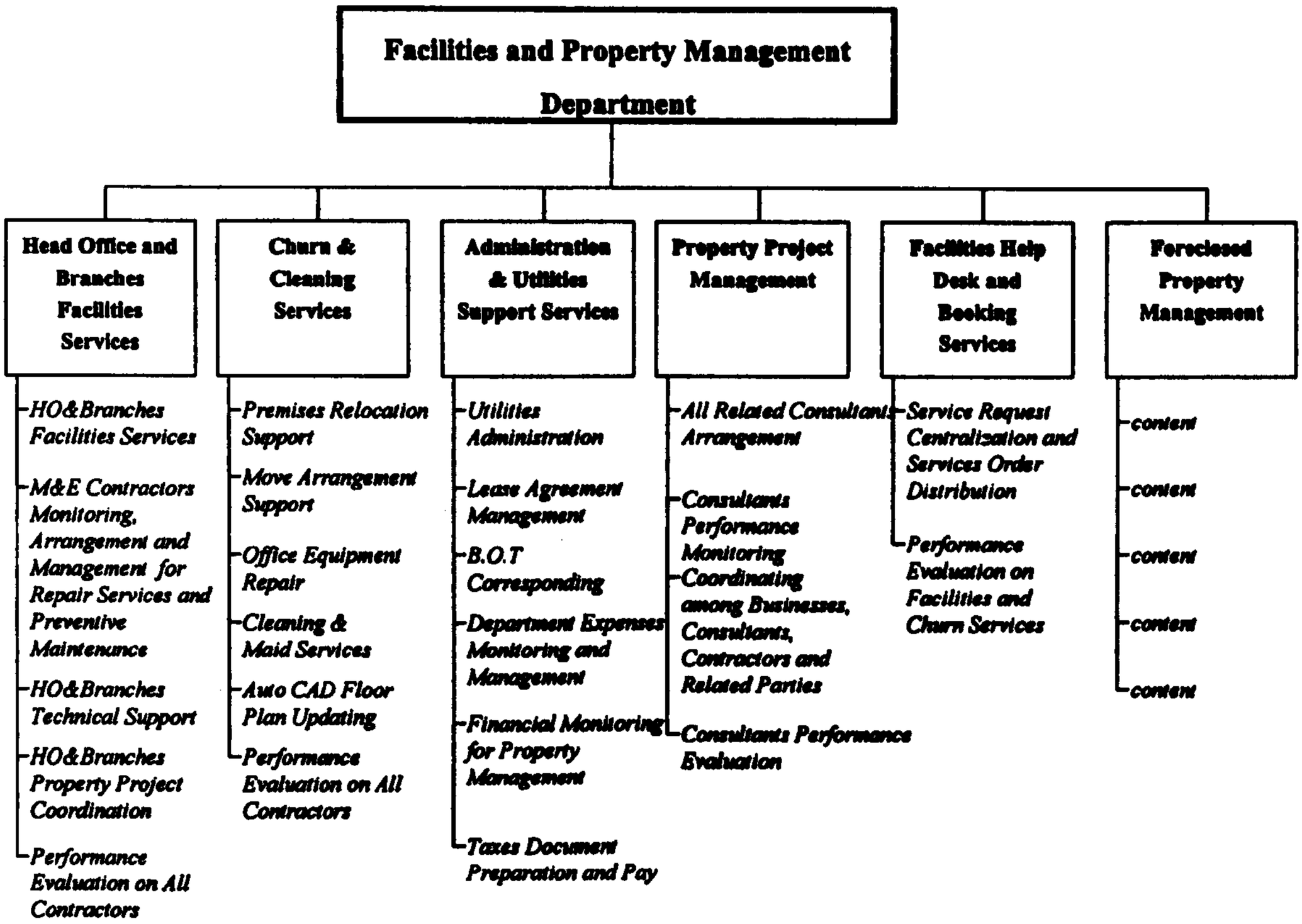


Figure A(19) The FM department after Merger

This departmental structure was partially designed based on the typical structure of the corporation and corporate guideline. The functions of FPM department were arranged or grouped in according to type of services, skills, and the amount of works. The functional arrangements of building services, administration and utility, property project management and help desk, were typical to corporate FM department structure, while the separating arrangement of security, churn and cleaning services was unusual. According to the Head of FM department, the reason to have specialised functions of cleaning and churn was because these functions had a large number of headcount and needed specific management. The function of property foreclosure and scope of each function were arranged in according to specific demands of local operations. This structure allowed the property management function and database to link on the similar platform worldwide and exchange information of facility and property management among countries. In addition, it allowed the headquarters in the UK to track the performance of its facilities management around the world. In 2003, the department employed 12 permanent staff, with 120 vendor/service supplier staff providing services in all facilities.

Service Arrangement

Outsourcing was chosen to be the main method of all service deliveries. The method and arrangements of service delivery were determined based on the issues of cost and value, the efficiency and effectiveness of the provisions, and capacities and constraints of the local service suppliers. It was told that the extent of outsourcing varied by different countries due to the different capabilities of local service providers. In this case the building maintenance and operations, cleaning, churn services, maid service, UPS maintenance, precision air condition, and lady sanitary deposit box were outsourced. The department retains technician

staffs for building minor repair services and providing the advice to the contractors. Meanwhile, the organisation intended to retain the management authority of FM inside.

The option of total facility management was reviewed and found not to be feasible for the operational context in Thailand. First, FM had to work closely and directly with the Bank of Thailand, which the external total FM contractor was not allowed to do so for this time being. Second, the existing local service providers remained to be incapable of providing an effective total facility management. These conditions tended to limit the option of outsourcing for FM services for the operation in this country.

Performance measurement

The department conducted regular evaluation on the overall performance of the department. The service performance of all service providers was assessed monthly. The key performance criteria included the customer and employee safety, the cost efficiency, and the operational service performance. The department employed key performance indicator system to control and monitor the operating and service performance of the vendors. The performance of building services was mainly concerned with safety indices, time and costs, where the performance of services will be evaluated from safety indices, requirement completion and standard. The overall performance of the FM team was assessed on annual basis, concerning its achievements on planned targets, cost saving, and its specific key performance targets such as cost saving, time achievement, and energy conservation. These targets were set by the FM head. To an extent, the performance of the department was evaluated in relation to the budget control and project completion, and its annual targets such as cost saving on the expenses and energy consumption of the organisation overall. It was informed that the performance measurement issues and system varied by countries.

Future Plans

In the future, the department intended to implement the following initiatives at some stage:

- There was tendency that the organisation will transfer the responsibility of the physical security and fire safety from the Security Risk Management department to the FPM department in the near future. This would make the remit of FM in Thailand similar to those in other countries, and improve the performance of these services.
- The FM team would begin to focus more on measuring and controlling performance by having a specific FM performance measurement system.
- The FM department planed to bundle its outsourcing contracts into a small number if the FM skill market became more developed and advance in the future.

Case D: Physical Resources Management of A Local University

Background

The case is one of the oldest universities in Thailand, founded in 1917. When it was first founded, the university had 380 students taking classes in four faculties which were Faculty of Medicine, Faculty of Public Administration, Faculty of Engineering and Faculty of Arts and Science. The University is located in the CBD area of Bangkok. The University evolved largely in response to the changing needs and requirements of the country and its people. During the last century, the university had grown in size as well as in interests and activities. Since it was established, the university had gradually growth. Its facility resources had been developed and expanded in along with the increase of students. Today, the University had produced

over 85,000 graduates in various fields of specialization. The graduates had contributed to the development of Thailand. The university provides the extensive academic programmes covering wide area of knowledge and study.

The university had been well known for its excellence on teaching. It has long history in producing graduate students to serve the government and society. The University was well reputed for its strength at the Bachelor's degree level. In 1999, the government had a policy in giving universities an autonomy to manage their organisation and academic policies by themselves. In the same time, the University decided to implement a re-engineering programme to improve its capabilities for the long-term competition. These two factors led to the significant changes to the entire organisation. In 2003, the University had eighteen faculties and a number of schools, institutes and projects, which are engaging in teaching and other related activities. The University offered 30 international programs, 344 major subjects in four main areas of study, namely, health sciences, science and technology, the social sciences, and the humanities. There are 100 degree programmes at the undergraduate level, 26 graduate diploma programmes and 217 postgraduate programmes which include 57 doctoral degree options, 159 master's degrees, 1 higher-certificate project in a wide range of areas of specialization. There were more than 10,000 graduate students and 19,000 undergraduate students enrolling each year. The university always attempted to retain its position as a "pacesetter" among Thailand's higher educational institutions, and reach the international educational standards. It was planning to expand and increase its research capacities and postgraduate programs many more in the futures.

Position: Before the Re-Engineering

Organisation

Before the re-engineering, the University was one of the government education institutions, subsidised both investment capital and operating budget by the government. Its organisational strategies and policies were stemmed from at the government policy through the ministry of education. As a government university, it had adopted governmental procedures and paradigm for its organisational management, the policies of management, human resource management, resource allocation, and the working culture. The organisation had two separated lines of management; the management of core functions and support functions was separated All academic activities were controlled by the Office of Academic Affairs. All the academic decisions were centralised to the board of management. On the other hand, the Office of the President was responsible for managing the support functions of the University, including the Building and Ground division and Planning and Development division. Figure A(20) shows the organisational structure of the University in 1997.

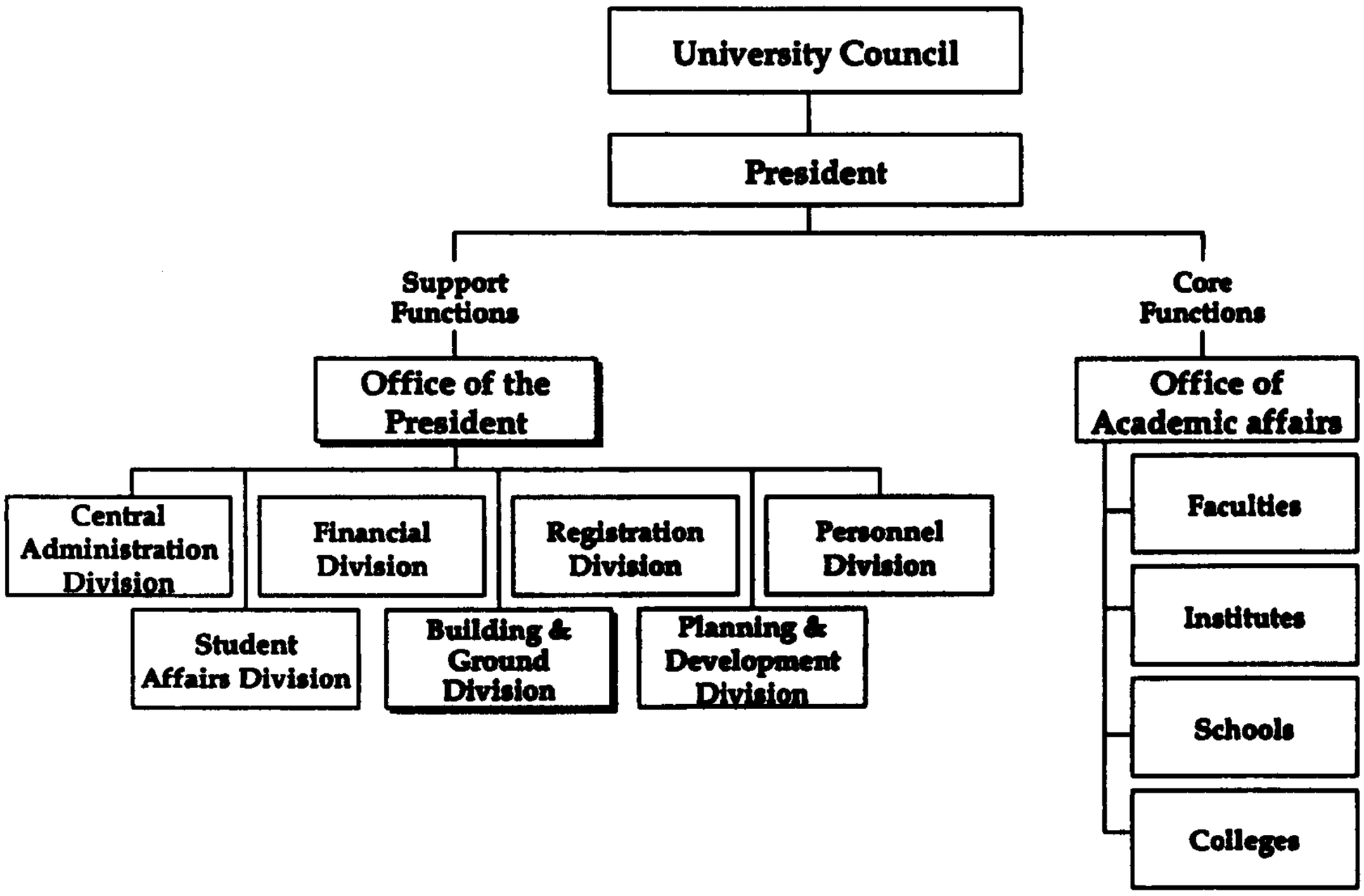


Figure A(20) Organisation Structure before Re-engineering

As a government university, the University was subsidised by the governmental budget receiving from the government annually. The characteristics of the University in past can be regarded as routine and very low change organisation. The organisation structure was highly bureaucratic with a number of levels of hierarchy. Its working processes were formally conducted based on standardised governmental codes of practice.

Business Strategies and Organisation Policies

Since it was established, the University had focused primarily on undergraduate education and taught programs, and provided the wide range of academic programmes and studies at that level. Its main mission, as stated in the organisational policy, was to produce the graduates to support the needs of the government and the society. The long-term plans and developments of the university tended to follow the government's education strategies and plans. The number of undergraduate student was well higher than that of post-graduate students. It had a policy in centralising the academic management to the university administration, and decentralising the support function management to the faculties/schools. The entire organisation adopted a zero-budgeting system to control its financial operations. Like other typical governmental organisations, the university intended to do both core and support operations by its in-house staffs. It was informed that during this period the organisation was not very concerned with facility management and performance issues, and had no explicit policies for building management and maintenance.

Work Operations

The focus on undergraduate education had impact on the characteristics of the activities within the campus. As a taught university, teaching and studying were the main activities within the campus. These activities were conducted in routine and traditional manner, with formal teaching and learning in the classroom and having certain office hours of between 8.00 a.m. to 4 p.m. The activities occurring outside these hours were rare.

Facility Resources

The university was located in the inner Bangkok, occupying a large piece of property of about of 500 acres. The university's property was divided into campus and off-campus areas. The campus areas covering approximate 250 acres, 904,656 Sq. m are used for the education purposes only. While the off-campus areas are either lending to other government agencies and schools, or using for income generating purposes. The main campus consisted of three separated sites, as shown in Figure A(21).

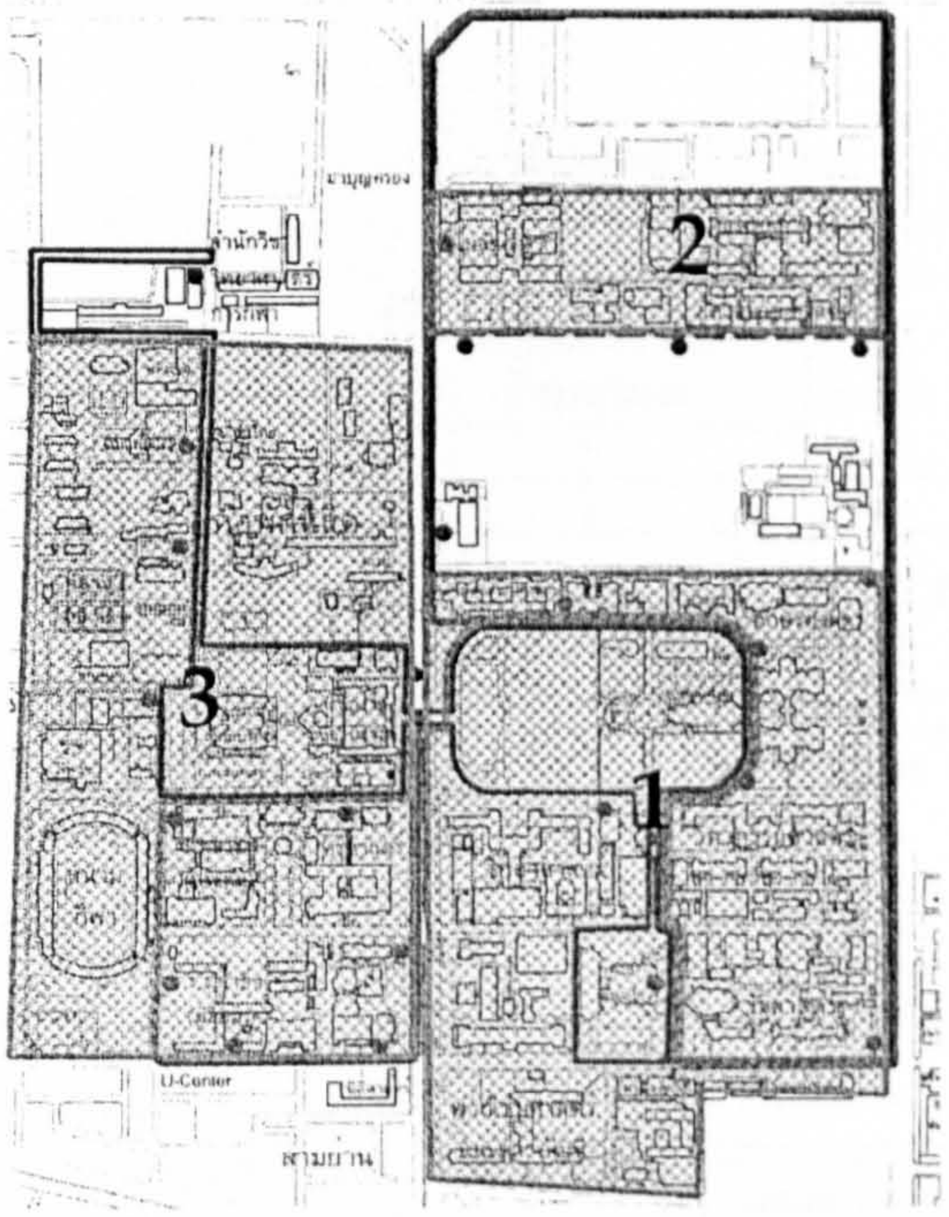


Figure A(21) Campus Map

The academic facilities were divided into two groups: faculty facilities and communal facilities, having different management system. The faculty facilities were the buildings belonged to the faculties, consisting of classrooms, lecture rooms and laboratory. They were used and controlled by the occupying faculty, which were used to support and as a part of the core activities of the university. The communal facilities included all types of buildings, facilities and infrastructures that were being shared and used by more than one faculty. Most of these facilities were considered as support facilities.

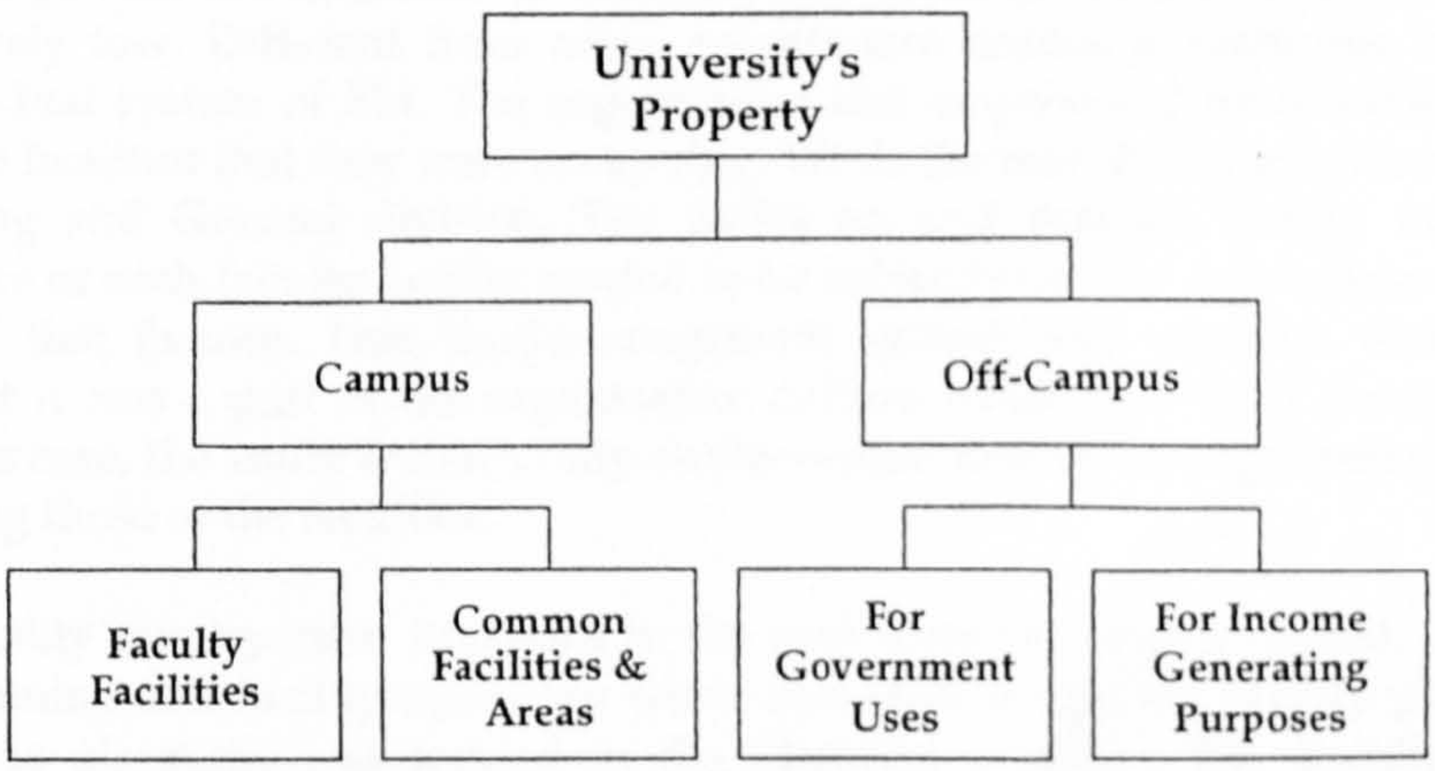


Figure A(22) Property Use

FM Practice

Similar to other government agencies, the university was notorious for its low concerns in building management and maintenance. Managing buildings and facilities in the past tended to be undertaken without proper knowledge and sufficient budget. There were no preventive maintenance plans and actions, while repairing was the priority job. The facility resources and their services of the were managed by the Building and Ground Division. The division was a typical and traditional facility management adopted for the governmental organisations. It was a part of the Office of University President.

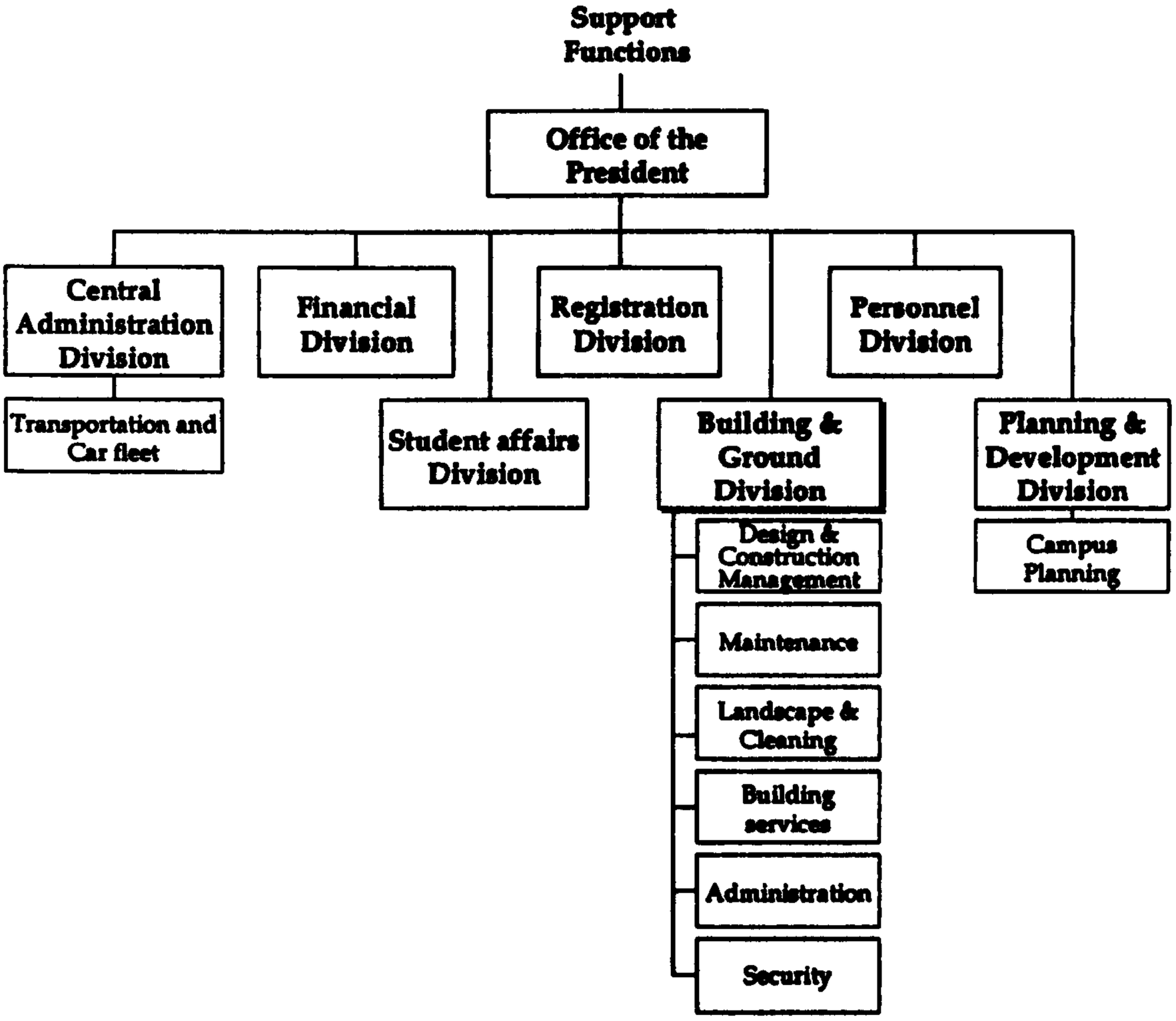


Figure A(23) Office of President

During this period, the attention on building and facilities maintenance of the organisation was relatively low. Different from other government academic institutes, the organisation adopted a dual system of FM. The organisation had empowered its faculties to handle and manage the facilities that they were occupying. While the rest of the facilities were handled by the Building and Ground division. The policy on and practice facility management and maintenance of each faculty facility tended to be subjective to the capabilities and the level of concern of that faculty. This dual-management system was unusual. Some interviewees argued that it was a part of the organisation culture which had been developed for a long time. In this case, the study focused only on the central facility management of the University, not covering those of the faculties.

Overall, facility management functions in the past were rather fragmented. The functions of facility planning and facility operation were separated, where the facility planning function like Campus planning, was located in the Planning Division. The Building and Ground division was mainly assigned for maintaining and repairing infrastructures of the university,

and providing occasional supports on minor or emergency repairs for the faculties facilities. The main purposes of the division then were to maintain and repair the building engineering systems, and infrastructure of the campus in a workable condition, and to deliver construction projects for the university. It focused on routine technical operations and services, and construction management. The division tended to focus on physical development and occupancy rather than their management and maintenance. There were two important issues concerning the works of the division: the facility operational conditions and the completion of construction projects. The main concerns of the division were to ensure that the building and their services were in workable and safety conditions.

Responsibility and Scope of Services

The division was responsible for communal facilities and the infrastructures within the three campuses, and providing basic services such as maintenance and repairs for common/central facilities and infrastructure. The division was also responsible for the university's building construction projects, but not involved in campus and facility planning. The scope of services included building design and construction management, security, building and infrastructure maintenance, gardening, and housekeeping. The division was the function for facility services operator emphasising on providing maintenance and repair works, carrying the basic building services such as cleaning and security. The ground services included ground cleaning, corrective maintenance, and standard security. Occasionally, the division was responsible for preparing the venue for special occasions and ceremonies and the royal visits. The scope of FM services were relatively limited focusing on typical maintenance and services only. The division was allocated with the small amount of the operating budget for emergency repairs and regular maintenance, and had the total staff of more than 240 people.

Management Participation and Decision Authority

The division participated rarely in the organisation's management and planning meetings. Its relationship with the management of the university was a one-way communication where all the plans were decided and formulated by the organisational management. Mainly the division involved with operational decisions concerning daily and short-term decisions on its routine works.

FM Organisation

The division adopted a functional structure, and consisted of six operational functions, as shown in the Figure A(24). These functions were Design and Construction management, Security, Maintenance, Gardening and Housekeeping, Building management, and Administration. The structure of the division was constructed based on the typical format of the government, emphasising on maintenance and repairs. The functions were divided by their skills and specialisation.

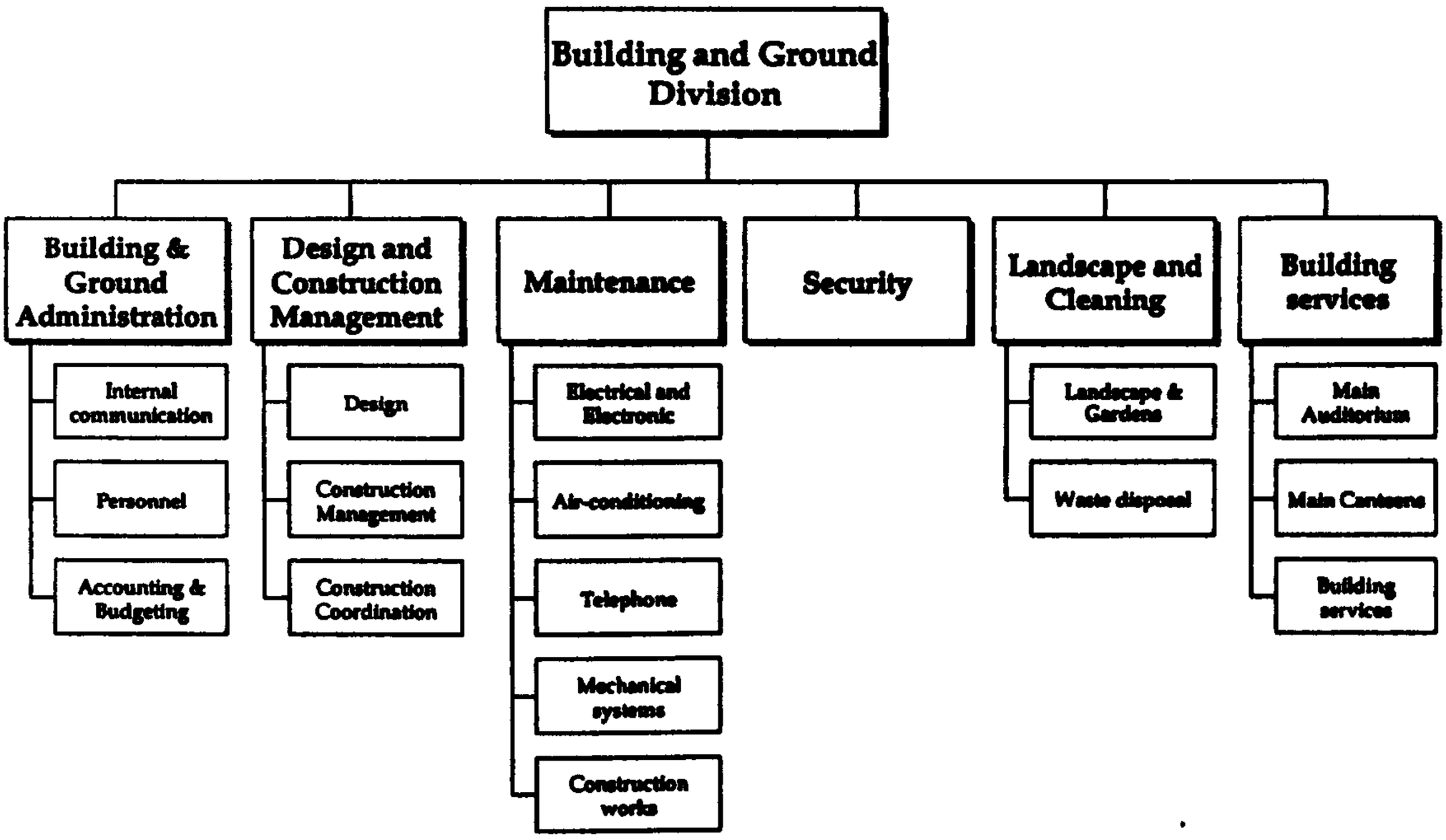


Figure A(24) Building and Ground Division in 1998

Service Arrangement

During this period, the main method of service delivery of the University was in-house. The facility services were mainly delivered and provided by in-house staffs of the division. The method had been developed for long tome to fulfil the needs of the university itself and was considered to be a sensible option while there were no service available in the market. In addition, it was a general practice in government organisations.

Performance Measurement

There was no formal performance measurement system for the facility services and management. There was only assessment was about individual performance evaluation undertaken for salary promotion.

Position: After the Re-Engineering

Organisation

The impacts of the globalisation, rapid changes of the country, and the changes in the government policy on education attempting to transform the government universities into autonomous university, forced the University to change its goals, management and organisational structure. As a former President of the University said that *'we (the university) have to survive in the new and worse environment'*. To cope with the challenges and sustain its position, the University decided to implement the 'University Re-engineering Program'. The program was aimed to improve four key areas of effectiveness, efficiency, quality and flexibility in the University's administration and academic capability.

In 1998 the university had implemented reengineering process to respond to its contextual change. Mainly the university had a policy to shift its position from a taught university to a research-led university, while remaining to provide wide-range of undergraduate and post-

graduate academic programmes. The reengineering affected the University's academic strategy, working and teaching patterns, and restructuring organisational structure. The academic management was decentralised to the faculties, while the management of administration and support services were getting centralised. The University started reforming and restructuring its administration organisations in 1998.

The main ideas of the initiative were to centralise all support functions, and decentralise the core activities – academic management, to the faculties giving academic freedom in arranging and managing courses, programmes, and research. The Office of the University became the cluster of administration and support functions divided into main support function, semi-cooperative function, specialised function and other function. The main support function of the University were Administrative Affairs, Financial Affairs, Human Resource Affairs, and Physical Resource Management. These functions were positioned at the 'Office' level reporting directly to the president and the council. In addition, the re-engineering also resulted in restructuring academic management system, HR management system, and physical resources utilisation system, and changing budgeting system.

The reengineering involved comprehensive changes across the organisation. The university was given autonomy in formulating academic plans and administrations to the faculties. The new organisational structure was flatter, divided into academic and administrative groups, as shown in Figure A(25). This structure reflected the concept of decentralised management on the academic affairs. With the new structure, the university was able to concentrate much more on its core operations – academic activities. All academic units, such as faculties, colleges, schools and institutes had more freedom on their academic management and development. While the support services and activities were established as a set of specialised Offices. Each support function could develop its core competencies as professional specialist, and contained with its own planning, managing and operating functions.

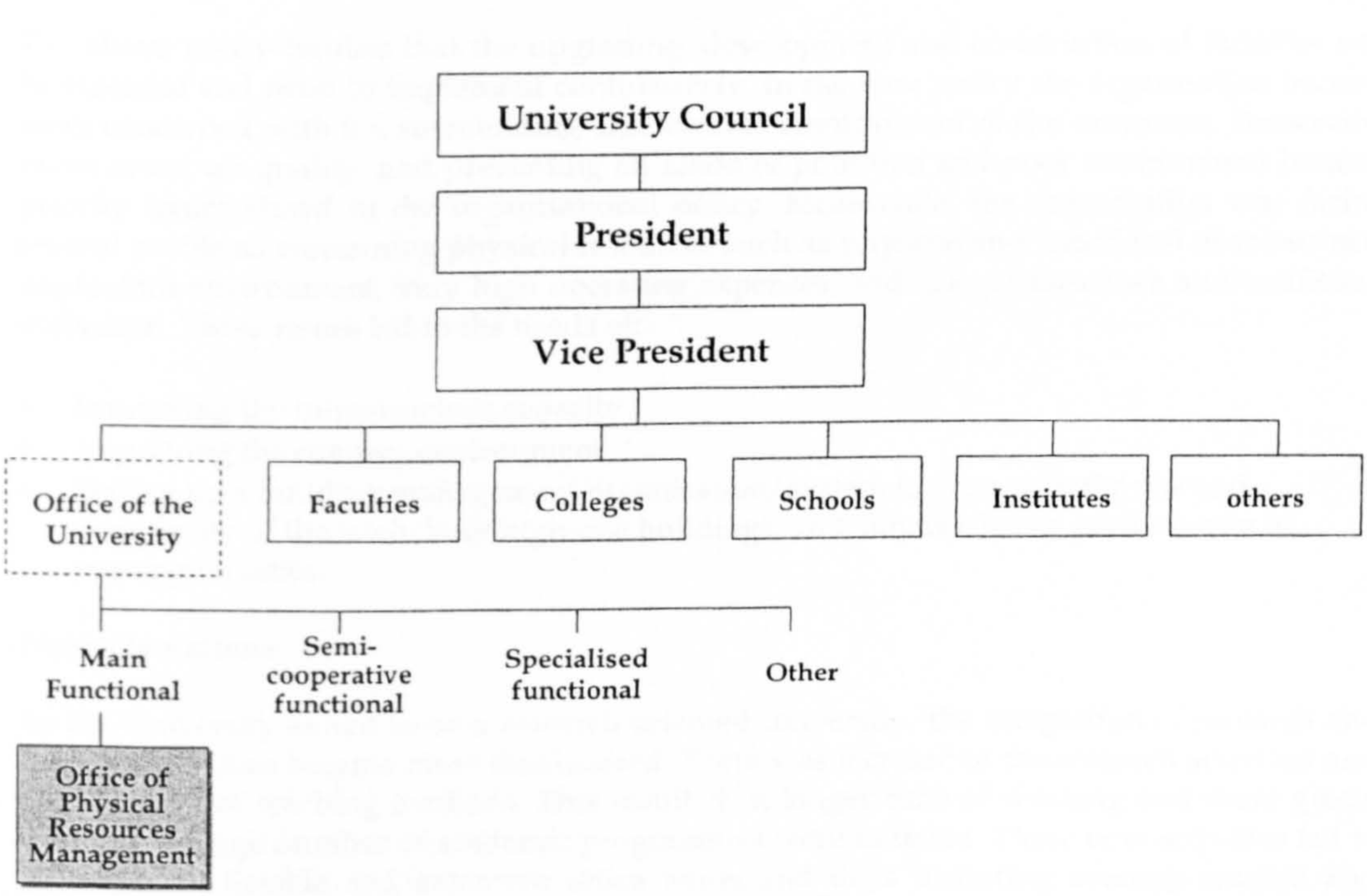


Figure A(25) Organisation structure in 2003

Business Strategy and Organisation Policies

The university aimed to become a research-based university in the next stage of its development. In doing so, it shifted its focus to graduate studies and Research by initiating more post-graduate programmes and research centres. The university became to focus more on research activities and academic services. The University undertook new strategies focusing on higher education and research, providing more international courses and increasing research activities and collaborations. It encouraged and supported all faculties to offer master and doctoral programs. Learning and teaching, research activities and academic services were considered as the core operations of the University. The quality assurance programme was initiated and implemented to improve the effectiveness and efficiency of the university in every aspect. Since then the performance and outcomes of all works and departments had to be evaluated regularly.

In the same time, the facility and environment within the campus, both physical resources and support systems, needed to be improved to support the extension of the academic activities and the new policies. The university became much more concerned with resource utilisation and conditions. It recognised that the physical resources became an important factor to its operations and long-term success. Keeping up the facilities with the pace of technology and changes in learning and teaching methods was regarded as a crucial issue of the University. To support the long-term goals, the University set out an explicit policy on physical resources development and management as following:

- Developing the infrastructure necessary for effective learning and teaching, research, administration, and improvement of the environment.
- Improving the means of raising revenues and managing its properties in order to facilitate the operation and development of the university.

The above policy implies that the upgrading, development and construction of facilities will be essential and need to implement continuously. In the new policy the organisation became more concerned with the surrounding and internal environment of the campuses. Preserving green areas, air quality, and preventing all kinds of pollution and poor environment became priority issues stated in the organisational policy. Meanwhile, the organisation was facing several problems concerning physical resources such as physical and functional obsolescence, unpleasant environment, very high operating expenses, and low performance and inefficient utilisation. These issues led to the needs of:

- Improving the infrastructure capacity
- Improving the campus environment
- Setting up a building management organisation/system to cope with the use and complexity of the lately built high-rise buildings, and enhance better performance of existing facilities.

Work Operations

As the University aimed to be a research-oriented university, the integration of research and teaching activities became more emphasised. There was increase of the research activities and the diversity of teaching methods. This resulted in longer time of working and more group working. A large number of academic programmes were initiated. These new activities led to the needs of flexible and extensive office hours and days including evening courses and weekend programmes.

Facility Resources

The size and feature of the facility resources were largely much the same as previous stage. During the research, the University had 193 buildings accommodating areas of 846,355 Sq. m.

Most buildings and facilities were built in between year 1961 and 1986, that was the time that the University had been expanding extensively. Most high-rise buildings were built in 1987 to 1996, when the university started to use the policy of building co-use/sharing to enhance the efficiency of utilisation. The buildings are diverse in ages, heights, sizes, types, and building engineering systems. Figure A(26) shows the diversity of building profiles within the campus. The building types include faculty or academic buildings, laboratory, library, accommodations, mix-used buildings, auditorium, sport facilities, museum, historic buildings, stores, and art gallery. In addition, the university also had large infrastructure system, such as inner roads, sewage, main electrical system, water system, landscape, and so on. The campus accommodated approximately 19,000 undergraduate students, 11,000 graduate students, 2,700 academic staffs, and approximate 5,000 supporting staffs.

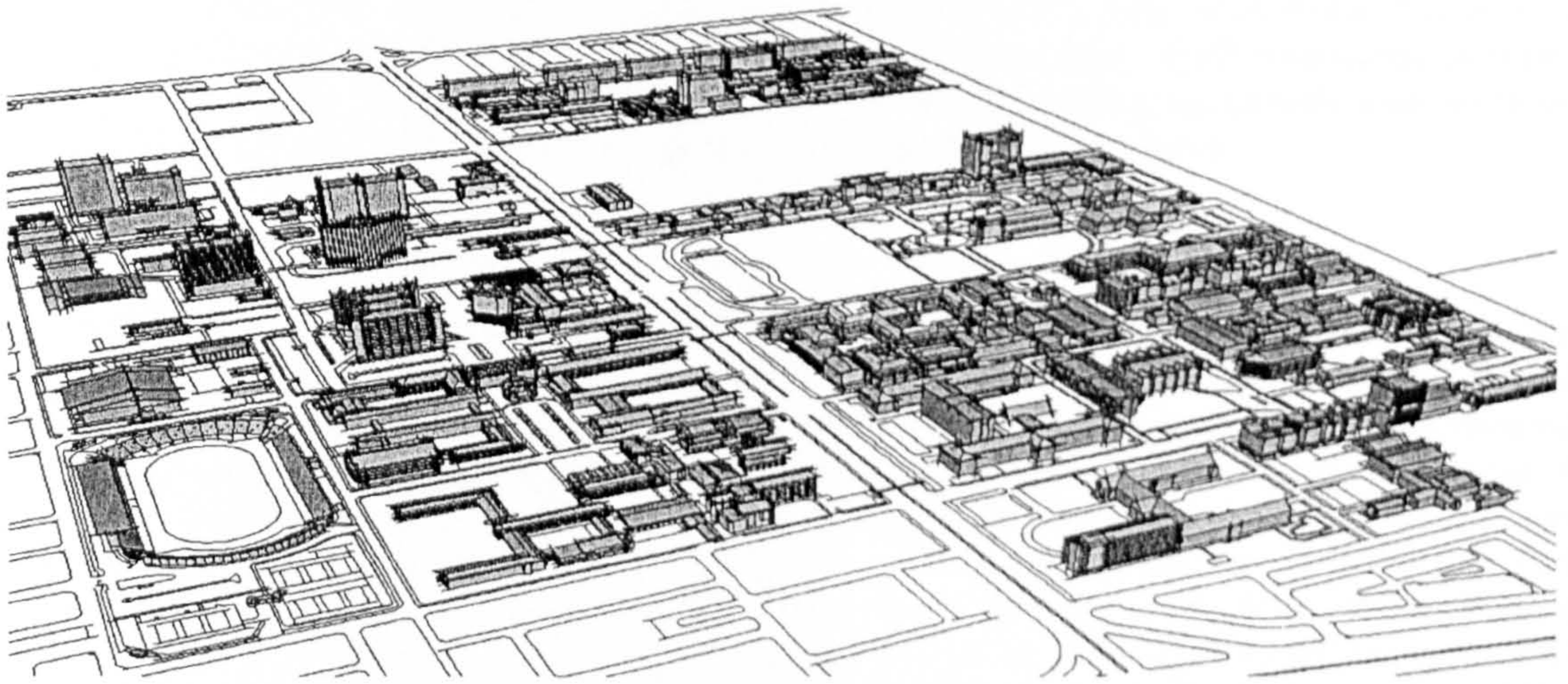


Figure A(26) Campus View

The new policy and orientation on academic management of the University affected the use and management of the facility in many ways. It increased number of user, variety of use, and the expansion of building use time. The facilities and buildings had to serve for postgraduate courses in the evening and weekend, beyond typical office hours. Sharing physical resources among faculties became the organisation's main policy, while new buildings were built for the communal uses. The facility resources were considered as one of important resources of the university.

FM Practice

Apart from restructuring organisation, improving and reforming the management of physical resources was one of the key issues in the re-engineering programme. The practices and arrangements of FM were changed in order to improve their capabilities in supporting the new policies and the long-term needs of the University. An integrative FM approach linking planning, use management, operations and maintenance, was required to cope with the changes of the facility characteristics, the operation processes, the facility uses, and the organisation's long-term goals. The new Office of Physical Resource management (OPRM) was formed to replace the old building and ground division by consolidating all functions related to facilities services, management and common support services into one department. It was the first time that FM-related function was positioned at the 'Office' level equal to academic, finance and HR functions, and included within the 'Main Functional Group'.

However, the use and management of the faculty facilities and the communal facilities were still separated. The organisation centralised facility planning and management of central

infrastructures and their services, including the common buildings, but still decentralised the management and services of academic buildings to each faculty. This was expected to change some times in the future. The main purpose and policy of the OPRM were changed from facility focused to the academic activities support. The main aims of FM at this period were:

- To support the core operations – academic activities, with effective physical resources management, effective facilities, and clean and safe environment.
- To enhance, maximise if possible, the performance of facilities and buildings.

The OPRM undertook the function of facility resources management and coordinator, including planning. The Office retained an essential role in physical development and project delivery according to the physical development policy. The OPRM placed its priorities on three issues: safety and security of user, especially the students, cost control, and resources utilisation. The Office Director indicated that the Office was highly concerned; health and safety of all users, especially the students, and physical condition of all communal facilities and their operating costs. The main tasks of FM included building operations and services, maintenance, space planning and management, and project management.

Responsibilities and Scope of Services

In 2002, the FM was responsible for merely 20% of the total building space, and all communal facilities and infrastructures including 32 buildings, landscape and stadium. The total area of land under responsibility of the FM was approximately 422,600 Sq. m. However, it accounted for all common areas including street, infrastructure and gardens outside the ground areas of faculty buildings, which was accounted of a half of the premises overall. The OPRM was responsible for Planning of physical development and improvement, and Building use and space management for these facilities. The Office was directly responsible for health and safety of all users within the campus, as majority of core facilities still under the control of faculties. The OPRM remained a large office with more than 200 staffs working. Most of the staff were operational staff such as security guards and technicians. The FM services covered building design and construction, infrastructure operations and maintenance, building services, security, and transportation services.

The Office was allocated with 2 types of budget: the operating budget and the development budget. The operating budget referred to the fund used in utilising and maintaining facilities on regular basis, while the development budget was allocated for building development, alteration, renovation, or upgrading. In 2002, the OPRM was allocated an operating budget of approximately 63.5 million Baht, as shown in Table A(1). The FM gained an access to the university's investment funds for capital investment on facility development and improvement.

Table A(1) Annual Operating Budget in 2002

The University Budget Allocation Profile	
Building management	7,500,000
Landscape	5,200,000
Operations, Maintenance and Repairs	15,800,000
Design, Planning and Project Mgmt	14,600,000
Security and traffic	10,800,000
Car fleet	3,800,000
Campus transportation	4,900,000
Administration	805,000
Sum of the budget	63,405,000

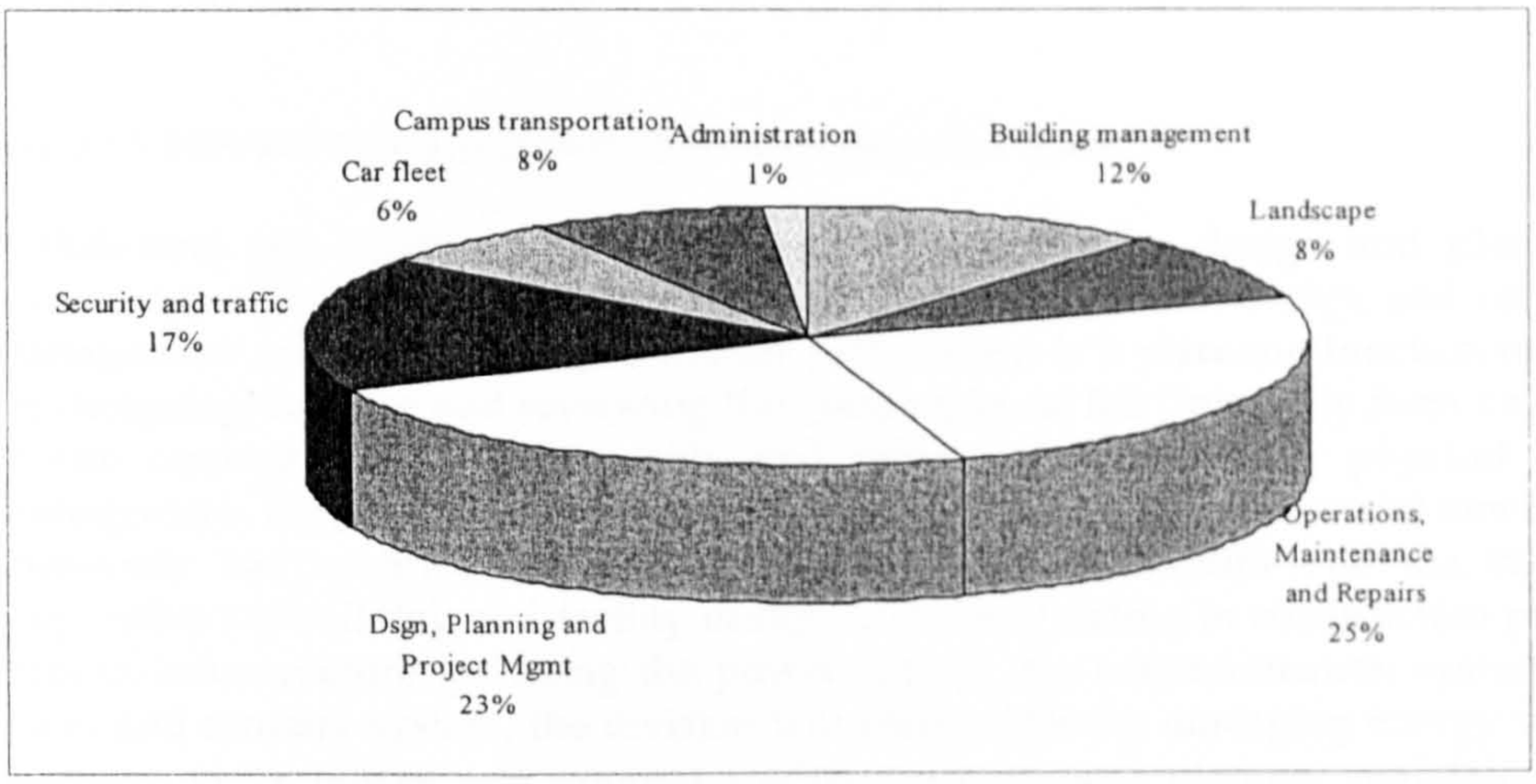


Figure A(27) Operating Budget of OPRM in 2002

Management Participation and Decision Authority

The Office participated regularly in the University management meetings and involved in decisions concerning physical resource issues. It established two-way communication with the management team of the organisation. The FM became more involved with the long-term planning, particularly on campus and facilities development master plan, planning aspects such as maintenance programme, and management. The Office was therefore entitiled to propose long-term and action plans on facility resources and sign off its operating budget.

FM Organisation

The Office adopted functional structure based on type of work. The organisational structure of the Office was comprised of 3 divisions of architectural and infrastructure division, building and ground division, and security and transportation division, as shown in the Figure A(28).

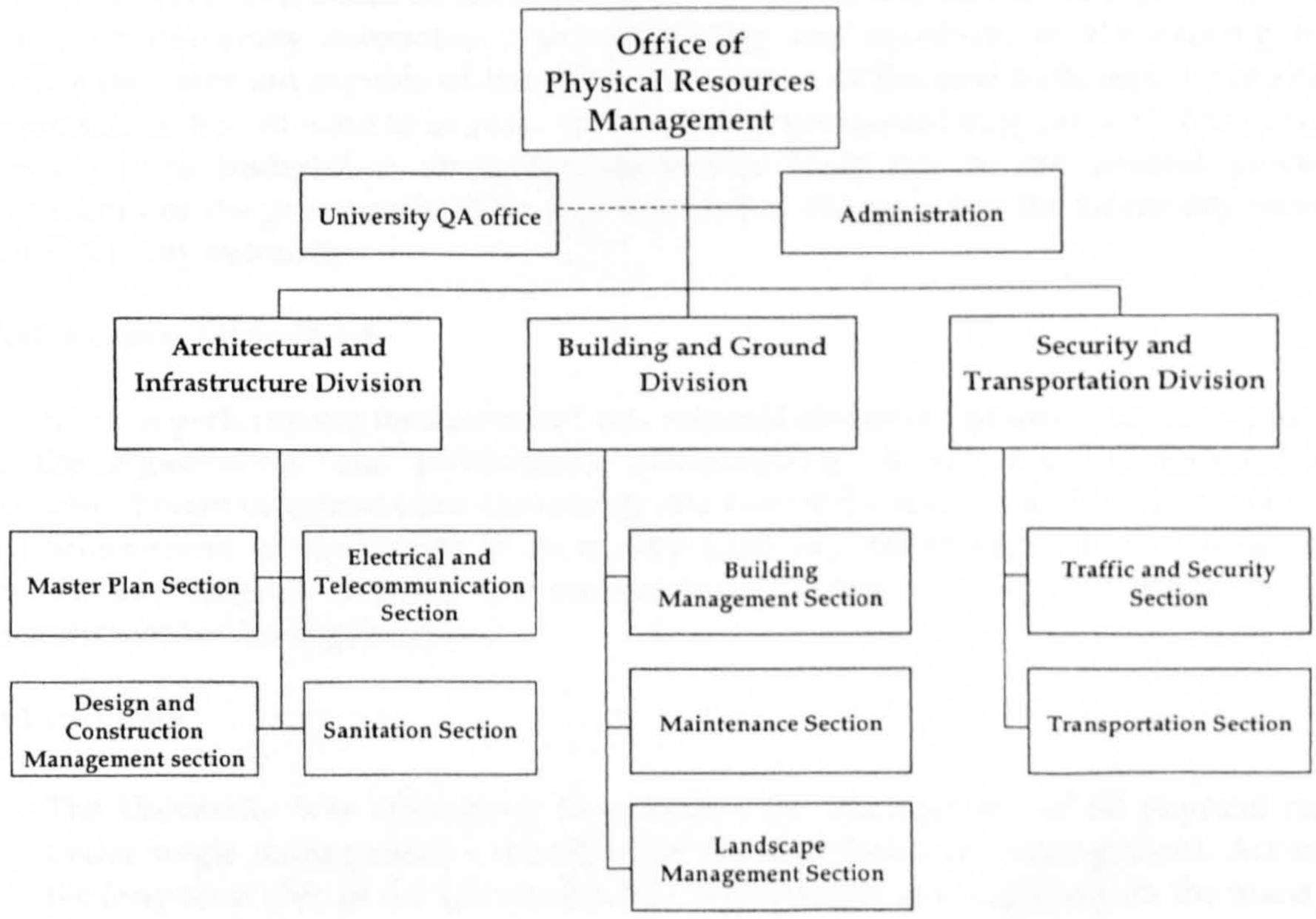


Figure A(28) FM Structure of OPRM

The responsibilities and coverage of each division are described below:

- *Architectural and Infrastructure division* was responsible for design and planning and constructions. It consists of Campus master plan section and Design and construction management section. The campus master plan section is a planning function responsible for designing, revising and reviewing the master plan of the University from time to time. It also accounts for gathering data and information concerning physical resources management. The design and construction management section is a crucial function as the University has continued to develop and improve its facilities all the times. It is responsible for building and facility design, and coordinating in construction projects. In term of infrastructure including the power supply, the communication system and the water and sanitary system, the division was responsible for managing energy utilisation, planning main power and communication systems, and planing, maintaining water system within the campus area.
- *Building and Ground division* was responsible for three issues which are building management, maintenance, and landscape management. The building management function mainly deals with administrating the routine services relating to building uses. The maintenance function accounts for maintenance and repairs of common buildings and facilities, infrastructure and street furniture. Informally, building and ground division works in zoning system in order to reduce workload of the central operation.
- *Security and transportation division* divided into security and traffic section and transportation section. The section was responsible for providing security and safety in common areas, traffic management. The transportation section was accounted for providing transportation for university use, maintaining car fleet, and controlling the shuttle bus service within the campus.

Service Arrangement

The University adopted the mix of in-house and contracting out service delivery for its facility service delivery. This could be done due to the re-engineering and the changes to government policy on university autonomy. The outsourcing was necessary as the existing in-house facility staff was not capable of handling the systems of the new buildings. In addition, the organisation did not want to increase the number of permanent support staff. The outsourcing services were undertaken on individual service basis due to the general procurement regulations of the government. This was expected to change when the University received its full autonomy authority.

Performance Assessment

A system of performance measurement was initiated as part of 'quality assurance' programme of the organisation. The performance accountability of FM was concentrated on the accomplishment of annual plan, the quality and cost of the services and implementations, and the achievement of the targets in its quality assurance reference, such as general cost and quantitative targets. Overall, the measurement system was applied from the general measurement of the organisation.

Future Plans

- The University was attempting to centralise the management of all physical resources under single management – the Office of Physical Resources Management. According to the long-term plan of the University, the OPRM would gradually re-gain the management

of faculty facilities. Once this plan was achieved, knowledge and skills in facility management, strategic planning will need to transfer. The role and scope of the FM would be expected to change again.

- As the campus covers quite a large area and is geographically divided into two campuses, the University planned to adopt a zoning maintenance scheme to increase the performance of maintenance and service time.
- The FM had a plan to develop a comprehensive facilities data-base to support the long-term management.

Case E: Property Management of a local Bank

Background

The organisation in this case is one of Thailand's leading banks, having a strong and large customer base. The organisation began its operations in 1944, and gradually expanded its business from the customer-base in Bangkok area to the rural areas. In early days, the organisation was operated and managed as a family business and very conservative. Its core business of the Bank concentrated on consumer banking, especially saving account and personal loan services. The Bank's branch network was expanded into rural areas very much during 1950 to 1980. Many branch offices were built throughout the country as essential channel to get the customer contacts during this period.

In early 1990s, the organisation was the first Thai commercial bank that made a net profit of over Baht 10,000 million in a year and became the largest company in Thailand, listed among the top 200 banks in the world. During year 1997 to 1999, the bank had been heavily affected by the regional economic recession. Its profit was recessed significantly. Furthermore, there was increase of business competition and competitors from overseas banks due to the deregulation of the BOT that allowed these banks to extend their operations in the country. Consequently, the bank was forced to restructure its operating processes and functions in order to regain its position in the market and competitiveness. In doing that, the organisation had implemented 'business transformation' initiative. The 'transformation' led to downsizing, centralising some business decisions such as corporate loan approvals, standardising business practices and support operations, staff laying off, terminating unprofitable business units, introducing international standards and practices and information technology, and restructuring organisation of internal units including its FM team. In 2003, the organisation held twenty-five percent of market share, owning approximately US$ 30.5 billion total assets. It had a large number of branches and electronic networks throughout the country, with around 1,700 ATM machines and over 600 branches. It had nearly 10 million customers, and overseas network of 21 branches, including two representative offices in London and New York.

Position: Before Business Transformation

Organisation

Before 2000, the organisation could be described as the largest local bank growing from a family-business bank. It was quite a conservative enterprise with decentralised decision-making on business operations. Its culture can be viewed as a highly politics and low-change organisation. The organisational structure of the Bank was divided into two major parts based on income and cost generating, as shown in Figure A(29). The core operations include all business units or profit centres, while the support operations included all support functions or cost centres incurring the costs and expenses in supporting the core operations. Due to its

large operations and different characteristics of business, the organisation arranged its organisational structure based on the type of business services and tasks, and its geographical operations: Bangkok and Provincial operations. The Bank had adopted the multi-divisional structure divided based on business and functional units.

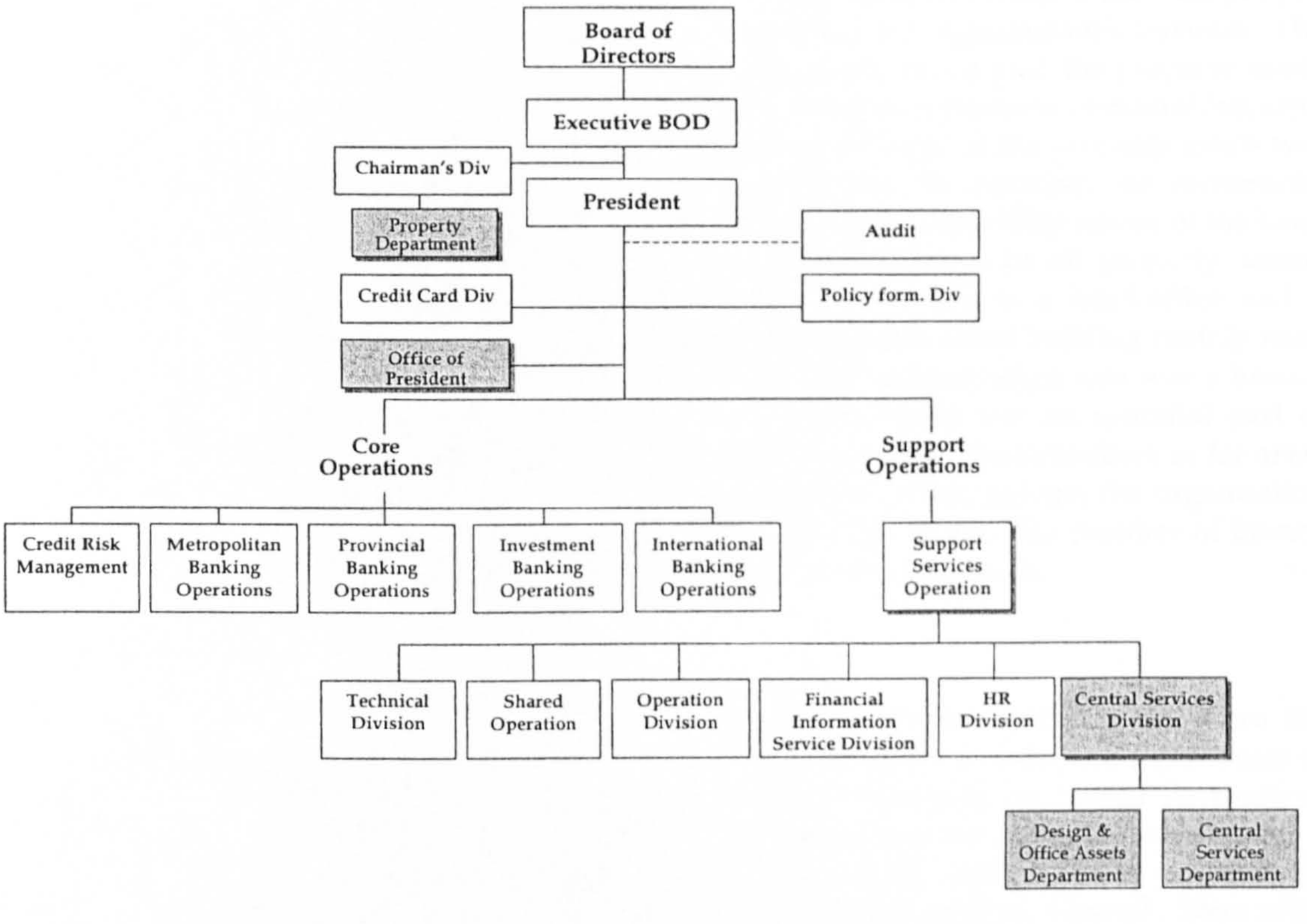


Figure A(29) Organisation's Structure before Business Transformation

Business Strategies and Organisation Policies

During this period, the organisation provided the wide range of banking services, with focus on consumer banking and local customers, personal banking and loan services. It had used the retail branch to expand its business – developing retail branches throughout the country. On the other hand, these fixed and physical assets were used as business security asset. Therefore the development of property assets was always a part of the Bank's capital investment. Like other banks, the organisation emphasised on the excellent customer services. It intended to allocate essential resources to achieve its operational goals. The organisation adopted a 'check and balance' system to control its operations and resource utilisation.

In term of facility services, the organisation had policy in separating facility operations of the corporate offices from the branch offices. The facility services of the corporate offices were assigned to the responsibilities of Central Service Division (CSD), while the organisation delegated the responsibilities of facility services and maintenance to the management of the branch. There were no formal facility management policies and plans, except operational plans. It was told that the facility issues were a secondary priority, not linked to business operations and performances.

Work Operations

The organisation adopted a typical work processes using the combination of paper work and computer. The business operations at the corporate offices were mainly back-office operations

involving routine office works processing and business meetings. They were typical office operations with the routine office hours.

Facility Resources

As its primary business was consumer banking services focusing on saving of the local people, the commercial branch was a key mechanism in expanding the organisation's business. The facility resources represented the brand and image of the bank. In the past, the property assets were considered as an operational assets of the Bank, using as a business collateral/security according to the rule of Bank of Thailand. Obtaining freehold right of the property assets was crucial and beneficial to the operations of the organisation. In addition, the continuous development of physical resource represented the stability and creditability image of the bank to its customers. In 1999, the organisation owned freehold tenure of all property assets, including more than 600 buildings consisting of 600 branch offices, a head-office and 5 corporate offices. The corporate offices were a group of high-rise office building mainly used for back-office operations of the organisation. One-third of the head-office area was a branch office having the intensive customer interface. The branch office was an essential part of business development, very important for making connection with the customers in far areas while there were no better ways in communication. Without IT technology, the organisation needed to have branches as many as possible to get into the clients. The number of branch offices was important for building its service creditability to the customers.

FM Practice

In the past, the organisation was not much concerned with the facility issues, since the operating costs were quite small compared to the size of its profit. In turn, the significance of the operating costs of property assets was overlooked. There was no formal database of facilities costs and utilisation. Similar to other local organisations, the Bank had adopted the a traditional concept of facilities management that only dealt with building engineering maintenance and operations, and delivering general building services. Overall, there were four major departments involving in the issues of property and facility management:

- Building design and Office assets department. The department was responsible for building project design and construction management, and office and furniture lay-out planning. It was a key function in supporting physical development of the Bank.
- Central services department. The department was responsible for mechanical and electrical operations and maintenance, cleaning and security of the corporate offices, and emergency repair for branch offices. The Central service department was recognised as the main function in handling routine operations and services in all property assets of the Bank, except those of foreclosed property and the branch offices.
- Property department. The department was located under Chairman Division, responsible for property asset registration, managing and disposing the foreclosed property. In case that the foreclosed properties required upkeep and management, the department usually commissioned a professional property management service provider to do the tasks. Foreclosed property included land, office, residential, factory and machine and equipment. The department was also responsible for the organisation's property acquisition in associating with the business strategic management unit that was responsible for location selection for branch offices. Property department was a specialised function in acquiring the property for the Bank's business purposes, and negotiating on the property contracts and purchasing. Location selection considered as business strategic issue which needed to be handled by business management function.
- Office of president. The office had a section responsible for property and facility planning, and tendering and procuring.

These functions were separated based on the reason of accountability and process transparency. The organisation also adopted the system of 'Check and Balance' to control the

pre-construction and post-occupancy outcomes. The facility planning was normally conducted by the Office of president as a part of the organisation's business plans. Most physical developments were led by the marketing strategy and business needs. Although it was the main function in building design and construction project management, the building design and office asset department did not involve directly with the business and facilities planning. The main department responsible for its facility services and management was the Central Services Division (CSD). The CSD had two primary purposes: to ensure that the facilities of the corporate offices were operating smoothly, and to deliver building projects on time, within the budget and quality target. The division had adopted the concept of physical services/operation-oriented focusing on operational performance of buildings and its systems and quality of building projects. Overall, the FM practice can be viewed as a fragmented arrangement where since there was no integration of facility planning, management and operations. The practice can be characterised as the combination of building service operator and building project management, emphasising on an operational function.

The main issues of the CSD were concerned with the appearance and condition of facilities and the completion and quality of building construction project. The division gave a priority on facilities operations and project management over the other issues as the development and construction of branch offices were vital to the organisation's business growth and expansion, while the continuity of facilities operation was critical to the business operations in the corporate offices. It was told that the continuity of business operations and facility operations as well as health and safety and costs of the operations were the key issues in the practice of the division.

Responsibilities and Scope of Services

The division was responsible for the facility operations and services of the corporate offices and construction delivery for the new branches, including design and construction management and coordination. As mentioned earlier, the organisation delegated building operations and maintenance responsibility of branch offices to the branches, so the central service department was predominantly responsible for operations and maintenance of the corporate offices including the head-office. The FM services under the remit of the division included building project design and management and office planning of retail branches, and mechanical and electrical operations and maintenance, cleaning, and security of the corporate offices. As an operational, support function, the CSD was mainly allocated with the overhead and facility maintenance budgets. In year 2000, the central service division was allocated the operation budget of approximate 350 million Baht per year. Ninety-six percent of the budget was allocated to the central service department, which was mostly used for utility expenses. The central service division had quite a very large number of permanent operational staff, more 350 people, as in-house service delivery was the main approach.

Management Participation and Decision Authority

The division was not quite connected with the business management. It was positioned as an operational management with a medium-low management position and did not regularly participate in business management meetings. Most of the time, it communicated with the business management on a one-way communication basis while the facility development was led by the business demands and constraints. The division had limited decision-making powers, mostly concerning with short-term operational decisions. In practice, the division worked on annual planning basis.

FM Organisation

Overall, the Central Service Division was divided into two departments: Design and Office assets department and Central services department. The design and office assets department was responsible for building design and construction management, and office services. The

central services department was responsible for facility operations and maintenance. The planning function was separated from the CSD, and allocated within the office of president. The division adopted a functional form. The central service division was mainly structured to facilitate the delivery of maintenance and operation of properties, especially the corporate office, and building projects.

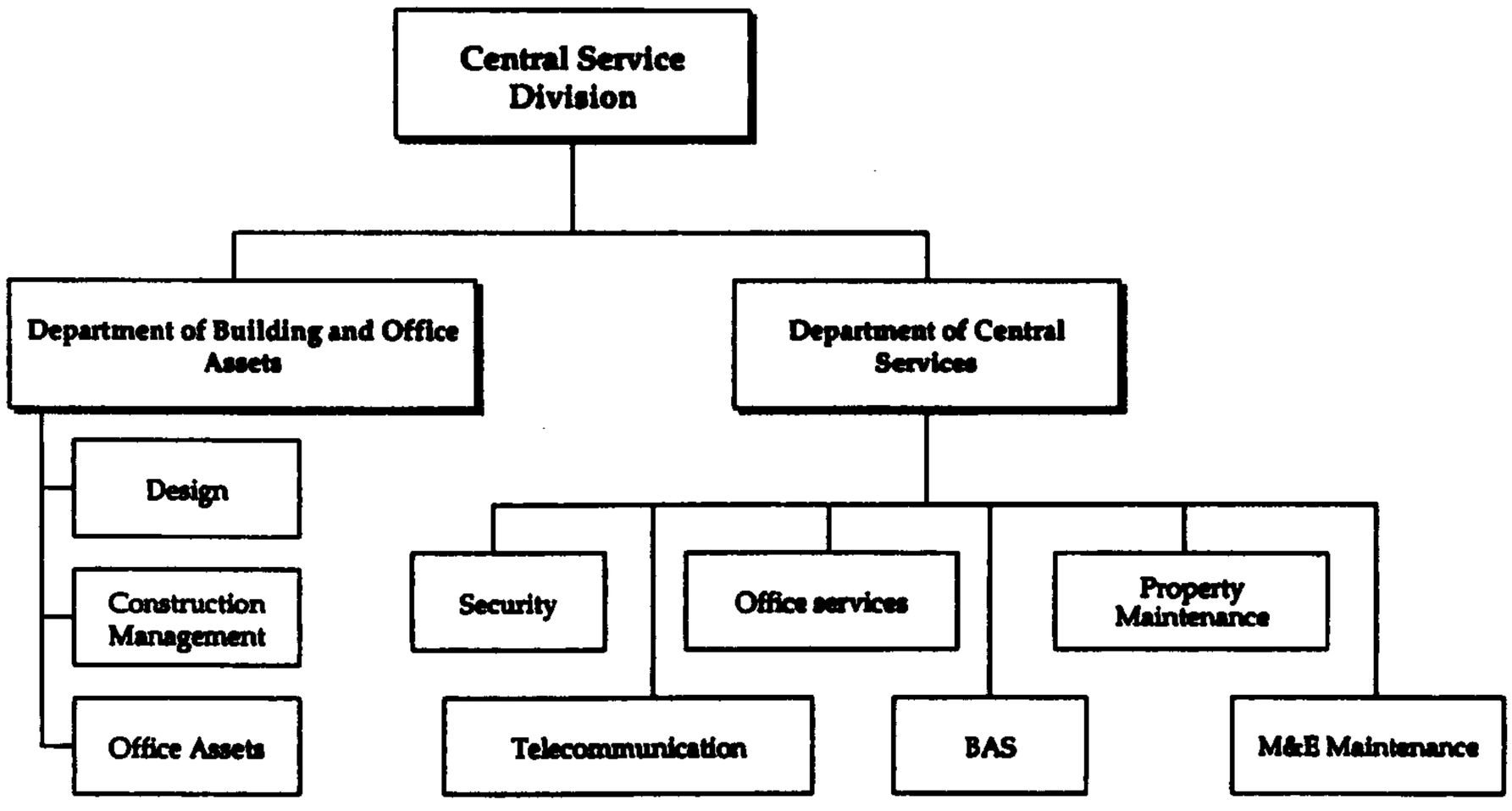


Figure A(30) Structure of Central Service Division

Service Arrangement

The organisation adopted a conservative approach in sourcing its support services and had policy in delivering the services by its in-house team. The main reasons of undertaking this approach were there were very few facility service suppliers or vendors and some services were considered critical to the operations. The Bank had employed its own security guard, building technicians, engineers and architects, and even cleaning staff.

Performance measurement

The division adopted the standard business performance measurement of the organisation to evaluate its general performance, concerning its operational outputs such as number of service jobs, project completions and gross budget spending. However the evaluation results were not taken seriously by the business management. It was told that the issue of FM performance measurement was overlooked since the operating costs of facility resources were considered to be trivial to the overall budget of the bank. Mainly, the performance measurement was focused on individual staff performance for the work and salary promotion.

Position: After Business Transformation

Organisation

The economic recession caused the significant negative impacts to the local economy and forced the Bank of Thailand (BOT) to allow foreign banks to fully do business in local banking. This resulted in the increase of furious competition in banking business. The bank was directly affected by the influx of the competition from foreign banks. As the organisation's profit margin was decreasing due to the increase of business competitors, it became essential to the organisation to reduce operating costs quickly and to improve its resources utilisation

efficiency. In order to respond to these threats and to remain competitive, the organisation decided to implement a re-engineering programme called 'Business Transformation' (BT).

The 'transformation' began in 2000, leading to changes to the way of work and reduction of number of staff, with an aims to increase the Bank's business operation flexibility and agility. The business transformation programmed involved the significant changes to the entire organisation; downsizing and centralising all operations. The organisation attempted downsized its business operations into efficient level by reducing its excessive human power and resources. Many operations were re-centralised back to the central management, and the decentralisation of business decisions was reduced. The total number of the staff was reduced to approximately 18,000 people. Overall, the organisation retained the same organisational structure, and still had strong internal politics. As a result of the transformation, all cost-centre units including HR and central service divisions had to re-check and improve their working processes to reduce the operating expenses.

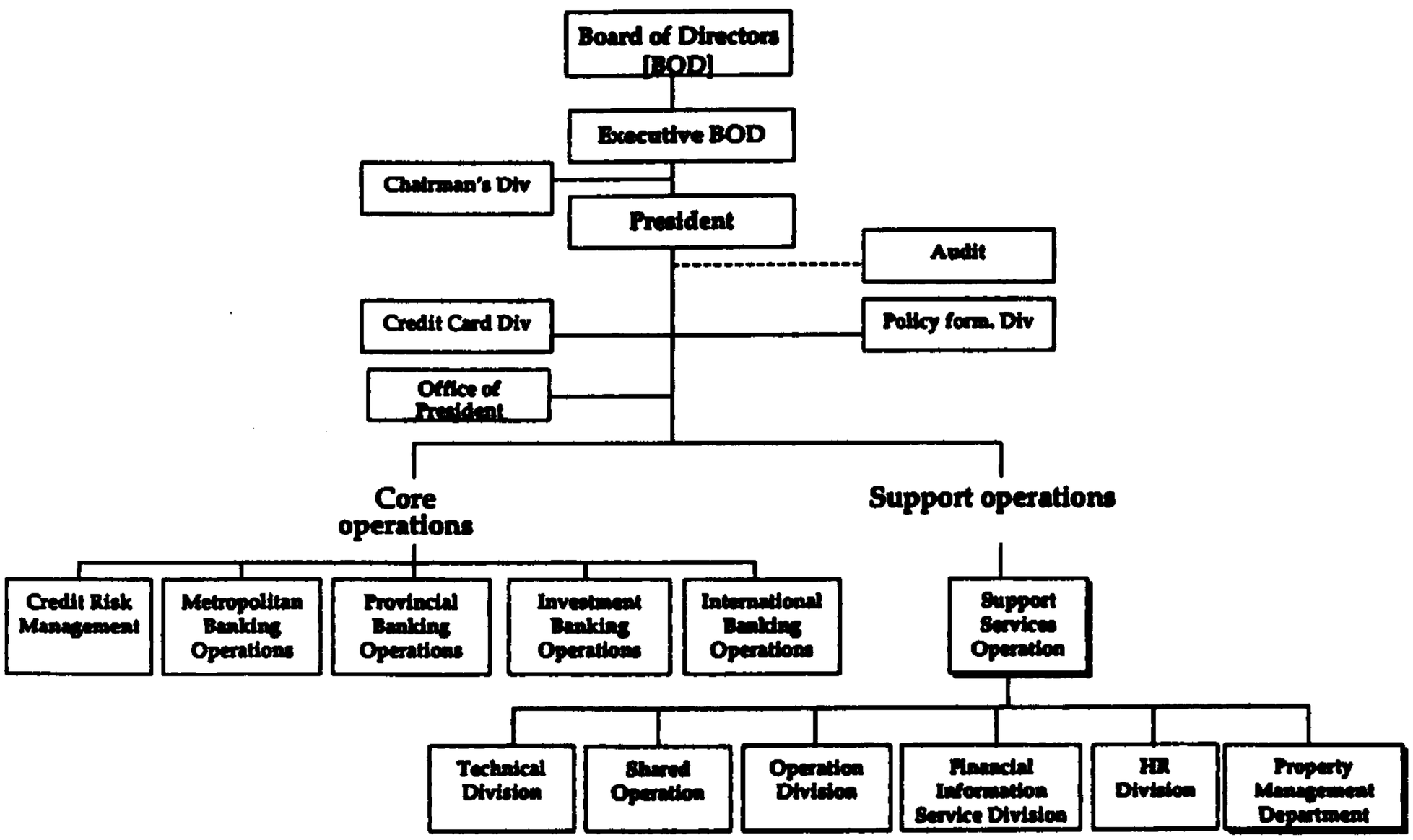


Figure A(31) Organisation Structure after Business Transformation

Business Strategy and Organisation Policies

As its business competitors were expanding their businesses and providing many new banking instruments and services, the organisation needed to be capable of providing more innovative banking services in order to remain competitive. It was considered that saving account services were no longer the organisation's primary business. In the new business strategy, the organisation turned its business focus to the other areas such as investment loan, other commercial services. Information technology was brought in to support its new banking services. It was vital that its financial services must be faster, more convenient and more secure. The organisation began to adapt some international management standards and practices to improve its operations.

In order to provide better customer service it must make continual improvements in customer service at every level of the organization. To achieve this, the organisation re-adjusted its business management structure by setting up four business groups based on the types of customer; Consumer, Business, Commercial and Corporate clients. The organisation had eight

key business units, including Corporate, Commercial, Business, Consumer, International Banking, Treasury, SAM/Recovery and Investment Banking.

After the economic crisis, the Bank of Thailand no longer allowed banks to use their physical assets as business collateral/security. In turn, the organisation changed its facility policy and strategy, adopting a more flexible asset acquisition approach. It intended to reduce number of fixed assets and changed to expand its business through temporary/small branches. It planned not to build the new branch offices by itself and retain freehold property right, and turned to seek for more flexible options of facility resource acquisitions, such as renting building and space, opening temporary micro branch in shopping mall, and opening more ATM points. It tends to use smaller branch operations in shopping malls and office lobbies for banking services. The organisation also intended to reduce and dispose its excessive facility resources such as some of its old, existing branch offices that had excessive space or are unresponsive to the new operation of the bank.

The new policies emphasised on improving efficiency and business competitiveness, reducing the amount of fixed asset and the development of the full-commercial branches, aiming to improve the operational efficiency in every sector of the organisation. The organisation became more concerned with its investment and operation costs. The overhead cost, technology and property investments were defined as the first three largest costs of the Bank. In order to reduce the investment and fixed costs, the facility acquisition policy was also changed from building its own facility resources to lease the available property in the market. The new buildings and facilities would be acquired based on short-term lease basis. In turn, this reduced number of the property development projects, and made the organisation to focus on utilising its existing property in more efficient ways. Outsourcing became a preferred option to reduce the fixed overhead costs and the need of acquiring human resource for support functions. At this period, the key success factors of the organisation included human resources, technology and systems and customer satisfaction. The security and safety of the customer remained crucial issues.

Work Operations

The organisation supported the transformation by upgrading its business operation technology to enable the business units to expand their range of products and services to meet the different demands of diverse customer bases. The business operations were moving towards IT-based work processes using advance computer and information technology. With a variety of its new banking services, the organisations began to have a variety of business operating hours. Although the services of e-commerce and e-banking were introduced to the market, most of the customers still preferred doing their businesses at the front-desk services making the branch offices to continue to be important.

Facility Resources

There were two major types of property assets: foreclosed property and the Bank's property asset. The former was property foreclosed from the Bank's non-performing loans, with various building types. The latter referred to property and facilities used for the Bank's operations. The amount of facility resource remained very much the same as that was prior to the transformation. In 2003, the Bank owned 620 buildings, with more than 1.6 million Square metre, throughout the country. Most of the property assets were built and owned by the organisation. The corporate office consisted of five buildings, including a 140,000 Sq. m. head office, two offices locating nearby the HO, and three offices locating in various locations. The Branch offices were categorised into three types; Business centre branch, Commercial branch and Micro branch. The business centre branch was the comprehensive service branch, while the commercial and micro branch was a standard branch providing counter service for consumer banking with no loan services. In addition, the bank installed ATM in more than 700 locations. Branch offices tended to be small, low-rise buildings equipped with simple

building engineering systems. Table A(2) summarises the number of office facilities and space of the organisation in 2003.

Table A(2) Facility Resources in 2003

Building Types	Buildings	Area (Sq. m.)
Corporate	5	311,951
Business Centre	83	283,000
Commercial Branch	444	1,051,500
Micro Branch	88	4,500
Total	620	1,650,951

The corporate offices continued to be the main accommodation of back-office operations of the Bank, and its one-third was still used for the front-office operations. In 2003, the total number of the staff accommodated in corporate office was approximately 3,250 people. There were about 1,400 people working in the head office. However, these facility resources were getting into the state of deterioration and out-of-date. There was increasing redundancy of the office space due to the staff lay-off in the process of the business transformation.

FM Practice

FM practice change was a part of the 'Business Transformation' programme. The improvement of FM efficiency and effectiveness became key issues. in this case, the organisation became more aware of the importance of facility resources, as the head of property management pointed that:

> *"facilities that are critical to the business operations should be well managed and maintained in an effective condition."*

The view of FM goals also changed should be a 'business-driven' function as the Head of FM emphasised that:

> *"if we want to serve/support the business of the bank, the method and practice of (property) management should be driven along the business. We have to think how to save and maximise the costs and investment."*

The key problems concerning FM practice in the previous were identified. It found that the fragmented structure of facilities-related functions had caused slow implementation, conflicts between department, work redundancy, and lack of consistent standard. There had no been a property and facility management strategy for the Bank. Moreover, the building upgrading led to the increase of complex building systems, which some were far too sophisticated to be handled by existing in-house technicians. It was also pointed that managing facilities and property assets should focus not only on maintaining the good conditions of property assets and deliver sufficient services to the user, but also on adding value to the business and meeting the changing business and financial needs of the Bank. In achieving that, the property and facility management strategy needed to align with the needs of the business operational requirements and the organisation's long-term objectives. This led to a need of significant changes to FM practices. The head of design and office asset department proposed an

initiative to integrate all functions related to facility planning, management and services under one department and to change the role and orientation of the practice. A consultant company to assist it in restructuring the practice. The restructuring process can be summarised in Figure A(32).

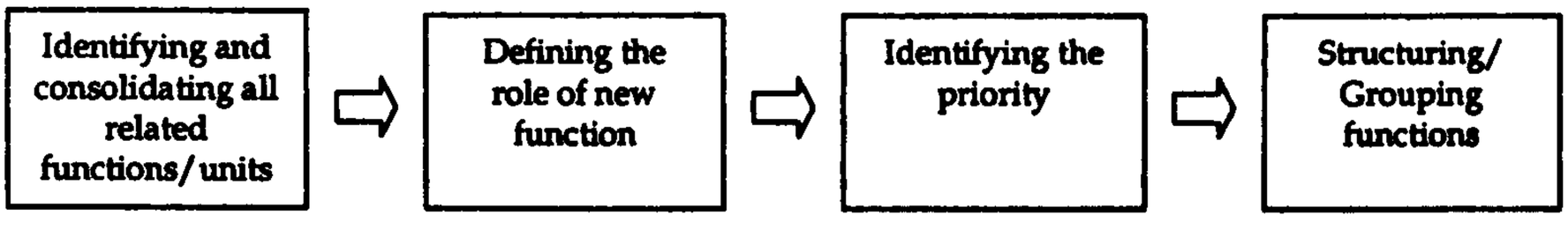


Figure A(32) FM restructuring process

The Head of FM team determined to shift the role of the department from operational to more strategic and management in order to improve the alignment of FM to the business needs of the organisation. As stated in the FM restructuring proposal, the strategic improvement of the facility management practice should focus on:

- Setting up a proactive team that capable of supporting the growth and the changing demands of the organisation in advance.
- Increasing its capabilities to support the business operations and enhance working productivity of the organisational staff.
- Improving its capability in managing corporate facility portfolio as a business asset.

The restructuring the central service division began in year 2003. A new department of property management, was emerged to replace the central service division. The Property Management department was formed by the consolidation of all facility-related functions, which were Central Service Department and Building Design and Office Asset Department, Property Department and Facility Planning function. The department chose the title of 'Property Management' because the board of management considered that this title was easier to be recognised and communicated than the title of 'facility management'. A facility management database and information system was set up as a part of FM capability improvement. This restructuring was under going process that would continue for another period, where the changes to FM department structure and practice were considered to be an intermediate means of the master plan.

The new FM practices aimed to provide the business management with the strategic solutions for facility and workplace management, the strategy in running and managing its property assets, sound and supportive facilities and services for the operations of the Bank, to increase the utilisation and performance of the existing facility. In addition, the FM team aimed to maintain the value of facility and property and to enhance the operational performance. It became concentrated on strategic issues such as property portfolio management, business support performance, and strategic facility management by reducing the focus on building operations, services and maintenance. The operations and maintenance and the services provision were less emphasised. The FM department also focused on increasing the workspace utilisation to reduce the capital investment and operating costs on property assets. Meanwhile the existing buildings were in the state of deteriorating, the building renovation and upgrading would become a priority issue FM in the mid-term.

Responsibilities and Scope of Services

FM was mainly responsible for the facility operations and services of the corporate offices. The scope of FM responsibility was extended to cover space management of the corporate offices and branch offices. The FM team was also responsible for cooperating with the Bank of Thailand concerning the issues of property management. The scope of FM services covered

Property management, Property project, Property operations, FM technology, Administration, and Stationery and Logistic.

- Property Management including the functions of
  -Space Planning
  -Capital planning
  -Outsourcing management
  -Procurement management
- Property Projects responsible for
  -Project development
  -Engineering design
  -Design drafting
  -Construction management
- Property operation and maintenance consisting of
  -Property operation, BAS and Telecommunication
  -Property maintenance: Building Maintenance, Electrical and Mechanical Maintenance, Office services and Facilities Help Desk
  -Building management
  -Corporate security
  -Transportation
- FM Technology responsible for
  -FM Information System development
  -FM information Support
- Central Administration incorporating
  -Department's HR management
  -Administration
- Stationary/Logistic responsible for purchasing and delivering office stationary in HO and branches.

In 2003, the number of total staff within the property management was 331 people. The department was allocated with approximately 460 million Baht for the operating budget. Figure A(33) illustrates the profile of facility operating expenses in 2003. The department managed a large permanent headcount of more than 300 staffs, most of them are operational staffs for security services. According to the Bank's annual report in 2002, the expenses on premises and equipment increased to 4.9 billion Baht.

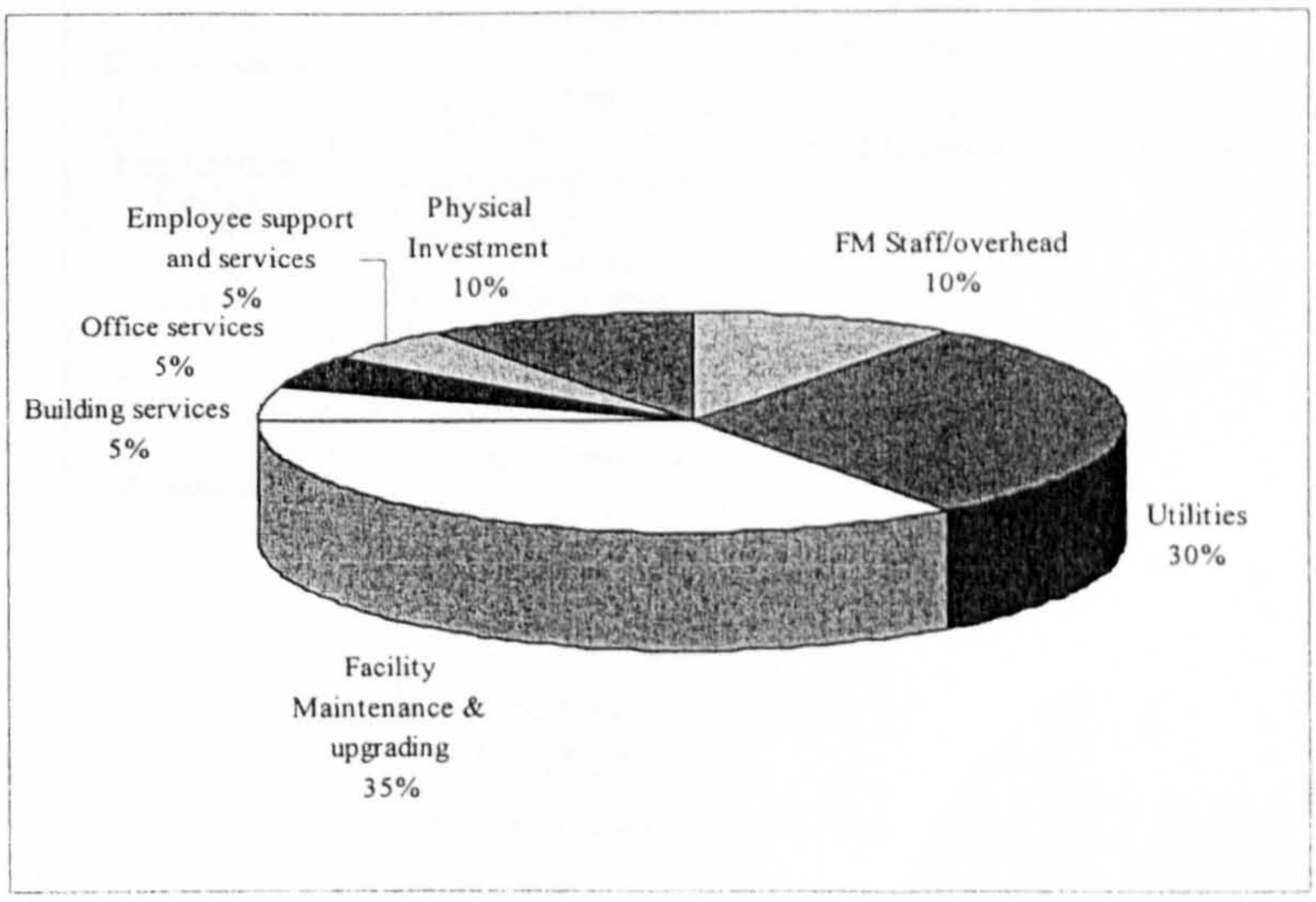


Figure A(33) Operating Expenses of Property Management in 2004

Management Participation and Decision Authority

As shown in Figure A(31) above, the department was located in the same hierarchical position as the old central service division. However, the Head of the department gained an access to participate regularly in business management meetings to be involved and provide inputs on the facility management issues. A two-way communication basis between FM and the business management was established. The FM team overtook the authority on short and mid-term facility planning issues. The department was empowered to tender service contracts, and to propose the action plans and long term plans for facility development and management.

FM Organisation

The consolidation of all facility-related functions led to the re-organisation of FM department.] The new departmental structure is shown in Figure A(34). The department adopted functional structure arranged into six sections; Property management, Property project and Property operations, and support FM functions, i.e. FM technology, Administration and Stationery and Logistic. Overall, the structure was divided into core functions and non-core functions. The core functions were property management, property projects and property operation, while the support functions were FMIS, administration and stationary logistic as non-core functions of the department. The property management function was responsible for strategic property portfolio, dealing with both physical and financial planning, and facility management strategy. Property projects section remains a necessary function as the department anticipates the continuity of building renovation and upgrading projects in the near futures.

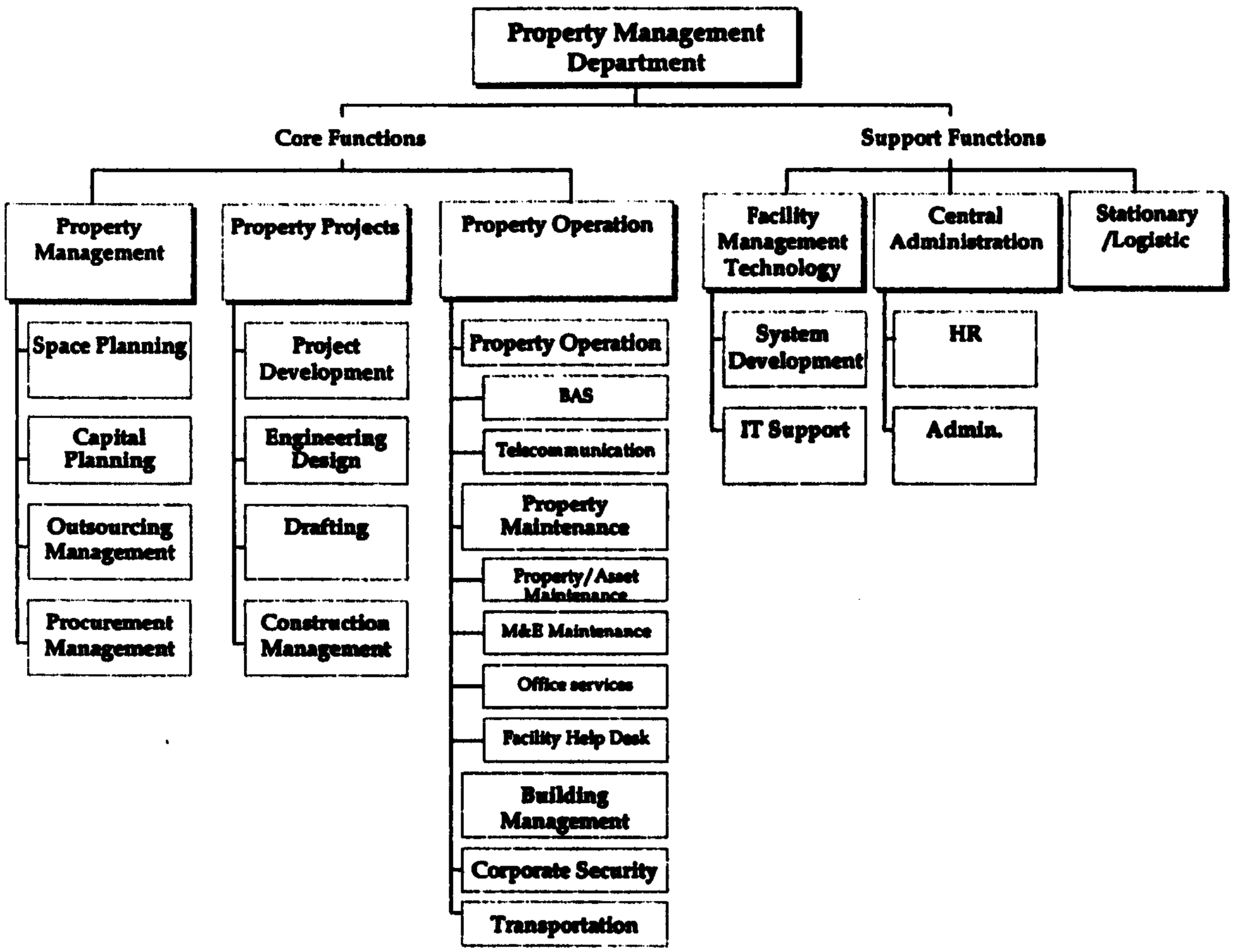


Figure A(34) Structure of Property Management

Service Arrangement

Overall, the organisation adopted a combination of outsourcing and in-house service delivery arrangements. The department provided building design, facility engineering superintendent, and construction management by the in-house staff. Under the new management regime, the department intended to do more outsourcing. It contracted out most of facility services, except the security services which the organisation still did not have plan to outsource its security services and lay-off the security staffs. The building services of the branch offices were all outsourced to external service providers. The FM team sought for assistance from consultants in other issues and works that it did not have expertise. The organisation determined to retain the management and planning authority on facility resources in-house.

Performance Measurement

Performances of Business operation and facility operation became the main interest of the new function. During the research, the specific performance measurement system for facility management was under development. The department was developing the list of specific key performance indicators for facility services, which would include basic FM issues using the local preferences. In the longer term, the department expected to use a comprehensive set of international FM performance indicators to ensure that FM services were provided appropriately and to enable the department to benchmark its performance with other organisations.

It was told that the new FM arrangements enhanced the planning and management capabilities of the property management department, and enabled the FM to serve and support the business strategies and operations better. On the other hand, the FM changes were considered to be an appropriate response to the business transformation overall.

Future Plans

- The restructuring was a part of the long-term corporate facility-property management plan. The ultimate goal of the restructuring was to diversify the FM into a business entity of corporate facility management. The head looked to integrate all powers and property assets and facility resources under the management of this company in order to provide the organisation with more effective corporate facility management.
- The head realised that the significance and coverage of security function were increasing. In the future, it was expected that the security issues would extend beyond the physical security aspect and require higher expertise and skills. Therefore, the department had a plan to spin off its security function in order to establish an stand-alone corporate Security function when appropriate.
- The department aimed to used a new FM performance measurement system that could reflect FM contributions to the business operations and performance. The department planed to establish systematic measurements using business-related indicators in associating with cost performance indicators and user satisfaction.

APPENDIX B: Semi-structured Interview Questions

INTERVIEWEES Name and position – Responsibilities

1 CURRENT FM PRACTICE ARRANGEMENTS
- Scope of services – Areas of Responsibility
- Main Focus – Key Issues – Priorities
- Policy – Operations – Strategy
- FM Support Concepts – Management Methods
- Characteristics of FM Tasks
- Departmental Structure – Levels of Authority
- Relationships with Core Business – Management Participation
- Performance Indicators – FM Accountability
- Development/Changes to FM functions
- Problems - Constraints
- Other Comments and Opinions: Current Performance and Constraints – Future Improvements and Opportunities

2 CURRENT ORGANISATIONAL CIRCUMSTANCES
- General characteristics – Organisational History
- Organisational Policy – Strategy – Plans
- Business Operations – Conditions – Circumstances
- Facility/Real Estate policy
- Support Services Policy

3 CURRENT FACILITY RESOURCES
- Overview of facility resources: development history – characteristics – problems
- Overview of support services: range – characteristics – standards – problems

4 PREVIOUS FM PRACTICE ARRANGEMENTS
- Scope of services – Areas of Responsibility
- Main Focus – Key Issues – Priorities
- Policy – Operations – Strategy
- FM Support Concepts – Management Methods
- Characteristics of FM Tasks
- Departmental Structure – Levels of Authority
- Relationships with Core Business – Management Participation
- Performance Indicators – FM Accountability
- Development/Changes to FM functions
- Problems - Constraints
- Other Comments and Opinions: Current Performance and Constraints – Future Improvements and Opportunities

5 PREVIOUS ORGANISATIONAL CIRCUMSTANCES
- General characteristics
- Organisational Policy – Strategy – Plans
- Business Operations – Conditions – Circumstances
- Facility/Real Estate policy
- Support Services Policy

6 PREVIOUS FACILITY RESOURCES
- Overview of facility resources: development history – characteristics – problems
- Overview of support services: range – characteristics – standards – problems

Case #____ Company:_____ Date__/__/__

Interviewee background: Name:_____

Title:_____

Responsibility:_____

FM Profiles

❑ Priority of task

Q: What is the main role of the FM function of the organisation? If the function performs more than one role, please indicate the superiority of each role by using scale 1-5: 5 is the main function/role, 1 is the low priority supplement role.

Strategic planning and Briefing ☐ **Intelligent client: representing, consulting, and coordinating** ☐

Managing ☐ **Operating and providing services** ☐

Others_____ ☐

Q: Ask the interviewee to *scale/weight the priority* of the primary works of the department. [scale 1-5: 5 is the most important, 1 is the least important]

Real Estate/Property Asset management ☐ **Planning & Programming** ☐

Space Planning & Management ☐ **Project Management** ☐

Operations & Planning Administration/Management ☐ **Maintenance & Repairs** ☐

Building operations & services ☐ **Office services** ☐

Employee supports and services ☐ **Others**_____ ☐

❑ Identification of time spending on tasks

Q: Ask the interviewee to indicate the *approximate percentage* of time that the department spends on the following works routinely.

Real Estate/Property Asset management ☐ % **Planning & Programming** ☐ %

Space Planning & Management ☐ % **Project Management** ☐ %

Operations & Planning Administration/Management ☐ % **Maintenance & Repairs** ☐ %

Building operations & services ☐ % **Office services** ☐ %

Employee supports and services **Other**_____

☐ % ☐ %

❑ Occasion of tasks

In your thought, how often are these functions required to perform? / how often are these following tasks come up to requirement?

Q: How often do the FM department have to perform these tasks [scale 1-5: 5 is routine, 1 is sporadic, 0 is never.]

Real Estate/Property Asset management ☐ **Planning & Programming** ☐

Space Planning & Management ☐ **Project Management** ☐

Operations & Planning Administration/Management ☐ **Maintenance & Repairs** ☐

Building operations & services ☐ **Office services** ☐

Employee supports and services ☐ **Others**_____ ☐

Resource allocation and authority delegation

- Please describe the total number of FM department annual budget Baht _____.
- Budget allocation: Please identify the approximate percentage of budget allocation of the FM function in these following expenses

FM Staff/overhead	☐ %	**Utilities**	☐ %	**Facility Maintenance & upgrading**	☐ %	**Building services**	☐ %
Office services	☐ %	**Employee support and services**	☐ %	**Physical Investment**	☐ %	**etc.**_____	☐ %

Relative criticality

How are these following issues relatively critical to the FM practice of the organisation [scale 1-5: 5 is the most critical, 1 is the least critical]

Business continuity & sustainability	☐	**facility operation continuity**	☐	**H&S and life quality of customer and employee**	☐	**Public and Community relations and support**	☐
Availability of resource for the business operations	☐			**other** _____	☐		

Or

Please identify the top-five of critical/risk circumstances that can be harmful to the organisation, caused by the failure of FM function.

1. _____
2. _____
3. _____
4. _____
5. _____

List of Interviewees

CASE	ORGANISATION	NAME	POSITION
A	Facilities Management of An International Telecommunications Company	Mr. Jesada Kanjanabose	Head of Facilities Management
		Mr. Nartpisit Peekanont	Building Service Manager
		Mr. Andrew Green	Consultant
B	Facility Management of the Head-office of a Local Construction Materials Manufacturing Corporation	Mr. Aviruth Wongbuddhapitak	Vice-President for Finance
		Mr. Ekasith Sinthusarn	Managing Director
		Mr. Nut Hmeethong	General Manager
		Mr. Chokechai Chaiyato	Former Head of Central service department
		Mr. Kamol Surinandha	Former Office Facility Department Manager
		Mr. Prakass Sutabutra	Site-1 Manager
		Ms. Boonruang Ariyanonvitaya	Building engineering services assistant manager
C	Facilities & Property Management of an International Bank	Mr. Surakit Chamamahattana	Senior Vice President for Central Services
		Mr. Vorapon Techa-akkrakul	Senior Manager for Property and Facilities Management
		Ms. Rungrawee Fakphairoj	Property and Facilities Management Operational staff
		Mr. Sanirath Rathjinda	Leasing Manager
D	Office of Physical Resources Management of a University	Prof. Dr. Thienchai Keeranant	Former President of the University
		Assoc. Prof. Bundit Chulasai	Former Deputy President for Physical Resources Management
		Mr. Buncha Charabirom	Director of Office of Physical Resources Management
		Mrs. Yannanuth Thanusingha	Head of Design and Planning division
E	Property Management Department of A Local Bank	Mr. Bhakorn Vanuptikul	Senior Vice President for Property Management
		Mrs. Pornpen Pimviriyakul	Facility Management Technology Manager
		Ms. Nanthaka Udomphaiboon	FMIS senior staff

APPENDIX C: The Applicability Trial Package

In conducting the applicability trial, the research sent out a package of the applicability trial to each participant. The package provided a brief summary of the decision framework and its associated tools together with a three-page questionnaire inviting expert opinion about the proposed approach. The package includes:

- Introductory letter
- Attachment A: A summary description of the positioning process and A schematic diagram of the stages of the decision framework.
- Attachment B: Examples of the tools and their documentation
- Attachment C: A three-page questionnaire

EXAMPLE OF FM POSITIONING TOOLS AND THEIR DOCUMENTATION

CONTENTS

DOCUMENT 1.1: ORGANISATIONAL PROFILE

Document 1.1 is for clarifying the context of the organisation both internal and external.

Key Internal Factors	Sub-factors	Descriptions
Organisational Characteristics	Organisational state	[i.e. the state of the organisation within the lifecycle: formalisation/inception, growth, maturity, diversification, consolidation, restructuring, etc.]
	Organisational culture	[i.e. basic qualitative characteristics such as organisational culture, beliefs, values, internal regulations, social responsibilities, etc.]
	Business resources availability	[i.e. the capacity and scale of business infrastructure, including financial resources, human resources, physical resources, information and intellectual capital, skills and knowledge of staff, etc.]
Organisational Purposes and Policy	Organisational policy	[i.e. the set of organisation's business and management initiatives including organisational strategies at all levels such as corporate strategy, business strategy and operational strategy, policies, and management statement, etc.]
	Organisational Strategies	[i.e. explicit/document mission statements, business goals, forecasts and plans, etc.]
Organisational Processes	Business operations	[i.e. the characteristics of the primary operations of the organisation, such as work processes, procedures and practices, office operations, working patterns and activities, key business drivers and/or key success factors, etc.]
	Organisational structure	[i.e. the form of the organisational structure, divisions and lines of delegation]
Other		

Key External Factors	Sub-factors	Descriptions
Economic context		[i.e. general condition or state of the national and local economy, including relevant economic indicators, trends, real estate market and labour condition, etc.]
Cultural context		[i.e. prevailing attitudes, beliefs, values, tolerance, and preferences within the local, culture and factors affect level of service standard and quality]
Legal context		[i.e. local law, legislation, codes and regulations that directly impact on facility management responsibilities and procedures]
FM market		[i.e. the capacity of the local facility management market, including services availability, skills and competency of service providers]
Other		

DOCUMENT 2.1.1: PROFILE OF REQUIREMENTS

Document 2.1.1 is for identifying the characteristics of needs for support services of the organisation.

Requirement Categories	Sub-Categories	Support Required			Requirement Notes	Priority				
		Yes	Maybe	No		1	2	3	4	5
Real Estate/Property Management	Real Estate/Property portfolio strategy									
	Lease negitiation, renewal and management									
	Landlord activities and Rent review									
	Leasing and sub-letting services									
	Retail outlets and space renting									
	Location searching and selection									
	Acquisition and Disposal of sites and building									
	Other:									
Construction Project Management	Relocation									
	New Building									
	Building/Facility Alteration									
	Building/Facility Demolition									
	Other:									
Maintenance & Repairs	Facility refurbishment									
	Building shell maintenance									
	Plant/M&E Maitenance and repair									
	Landscape maintenance									
	Other:									
Building Operations and Services	M&E Operations									
	Cleaning and Housekeeping									
	Energy distribution and management									
	Waste disposal & Environment management									
	Pest control									
	Disaster prevention and recovery									
	Health & Safety management									
	Security									
	Other:									
Office services	Office move service									
	Post and Mail distribution									
	Courier services									
	Telephone service									
	Record management									
	Print and Fax									
	Office stationery Storage and distribution									
	Reprographics									
	Reception, Porterage and Telephone operator									
	Public relations									
	Travel arrangements									
	Car fleet control									
	Transportation									
	Business reception and catering									
	Other:									
Planning & Programming	Long-term physical resource planning									
	Mid-term physical resource planning									
	Annual physical resource planning									
	Work programming									
	Physical development planning									
	Facility Planning/Master planning									
	Other:									
Space Planning & Management	Space policy and planning									
	Space configuration and reconfiguration									
	Space allocation, deployment, utilisation and relocation									
	Space use audit and monitoring									
	Churn planning									
	Office allocation									
	Other:									
Administration/ Management	Services management/administration									
	Budget and Cost control									
	Purchasing and Contract control and negotiation									
	Office furniture and stationary provision									
	Other:									
Employee supports and services	Child nursery provision									
	Restroom									
	Workplace nurse/first aids room									
	Recreations/Amenities									
	Catering									
	Residential accommodation									
	Community affairs									
	Employee special services									
	Other:									
Other										

DOCUMENT 2.1.2: OPERATIONAL NEEDS

Document 2.1.2 is for identifying the needs of the business and its operations, employees and customers for facility resources and support services, and indicating the relative importance of facility resources and support services to the business, its operations, employees and customers.

	Facility Resources Requirements [Descriptions of type, characteristics of facility resources needed for business, employee and customer, operations, and special activities]	**Support Service Requirements** [Descriptions of type, characteristics of services needed for business, employee, customer, operations, and special activities]	**Relative Importance** [the indicator of importance of the service relative to business operations, employee, customer, and facility operations]		
			Low	**Medium**	**High**
General Business Requirements					
Employee/Customer Requirements					
Operational Support Requirements					
Other/Special Requirements					

DOCUMENT 2.2.1: CURRENT FACILITY RESOURCES

Overall Facility Resources Identification

Facility Factors	Descriptions
Facility type	[i.e. the typology of facility resource, e.g. office, retail, healthcare, education, recreation, mixed-use, manufacturing, leisure, etc.]
Facility features	[i.e. facility attributes including the number and sizes of facilities, their locations and morphology, their technology and amenities, etc.]
Facility tenure	[i.e. the property portfolio characteristics – owned, leased long-term, temporary, etc.]
Facility conditions	[i.e. the physical characteristics of the site and facility including access, age, condition, physical appearance, physical problems and constraints, etc.]
Other	

Individual Facility Audit

Ref. No.	Facility	Description	Address and Location	Capacities			Condition	Special Features	Tenure	Potential other uses and Limitations
				Area (Sq. ft.)		Number of tenants/ occupiers				
				Gross	Usable					
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

[Note: There are a number of established methods that may be applied when undertaking this facility audit, e.g. Building Assessment, Real Estate Norm (REN), etc.]

DOCUMENT 2.2.2: EXISTING SUPPORT SERVICES

Area of Support service	Existing Services	Service Arrangement			Service Characteristics						
		In-house/ Insource	Part-sourced	Outsourcing	Recipient Group	Number of Recipients	Duration of service*	Service Coverage**	Level of service Quality		
									Low	Medium	High
Real Estate/Property Management											
Maintenance & Repairs											
Building Operations and Services											
Office services											
Space Planning & Management											
Administration/ Management											
Employee supports and services											
Other											

Note:
* i.e. the timing, duration and frequency of service
** i.e. the number of buildings and/or spaces (Sq. ft.) serviced

DOCUMENT 2.2.3: CURRENT FM CAPABILITIES

FM Resources	Details	Availability			
		n/a	Low	Medium	High
FM Staff	[i.e. number and profile of full-time, part-time, and outsourced staff]				
FM Skills	[i.e. education background, training experience, expertise, specialisation, etc.]				
FM Budget	[i.e. financial budget allocated to FM such as annual operating, replacement and repair budget, and capital investment for facility resource acquisition]				
FM Information Systems	[i.e. facility and services data-base, CAD, etc.]				
Tools and Equipment	[i.e. the characteristics of current hardware and equipment of FM team]				
Other					

DOCUMENT 2.3: CONSTRAINTS IDENTIFICATION

Document 2.3 is for identifying current organisational and contextual constraints, and their possible impacts on FM arrangements and practices.

Organisational Constraints/Limitations*	
Constraint	**Possible Effects/Impacts**
Financial limitation	
Organisational resources limitation	
Organisational policy and culture	
Locational constraints and accessibility	
Facility capability and capacity limitation	
Other	

Contextual Constraints/Limitations*	
Constraint	**Possible Effects/Impacts**
Business competition	
Legal restrictions	
Public infrastructure	
Local market constraints	
Tenure conditions	
Other	

[Note: * The above constraints are examples only. They should be identified depending on the existing conditions and context of the subject organisation.]

DOCUMENT 2.4.1: KEY ISSUES FOR FM

Key Concerns of FM practice	Risks [i.e. possible risks and failures concerning the issue due to under-performance FM arrangements]	Opportunities [i.e. potential advantages and value that might be arise due to effective and efficient FM arrangements]	Priority				
			Low		Medium		High
			1	2	3	4	5
Business continuity							
Availability of resources and services for business operations							
Financial performance							
Facility operations continuity							
H&S and life quality of customer and employee							
Facility performance							
Physical condition of building and ground							
Public and community relations and support							
Other:							

DOCUMENT 2.4.2: IMPERATIVES FOR FM

Document 2.4.2 is for summarising the relative significance and priorities of FM at both strategic and operational levels.

	Relative Significance of Facility Management	Priorities for FM
Strategic Level	[Descriptions of aspects of FM at the strategic level] •	[Descriptions of FM primary issues on resource management at the strategic level] •
Operational Level	[Descriptions of aspects of FM at the operational level] •	[Descriptions of FM primary issues on resource management at the operational level] •

DOCUMENT 3.1 OPTIONS IDENTIFICATION AND ELIMINATION

Document 3.1 is for identifying the general characteristics of possible FM positioning options, and analysing their feasibility.

Option	Service Focus*	Priority Function and Role of FM**	Scope of Responsibility					Feasibility Criteria***				Overall Feasibility
			Facility resources [under FM responsibility]	Support services [list of services included]	Type of service arrangement			Financial viability	Operational support	Market support	Legal compliance	
					In-house/ Insource	Part-sourced	Outsourcing					
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												

Evaluation: ✓ = Feasible; ✗ = Not feasible

Notes:
*General description of the emphasis and orientation of FM practice, e.g. business-oriented, facility-oriented, employee & customer-oriented, FM performance-oriented, etc.
** Description of priority function of FM, i.e. Strategic FM, FM Planning & Programming, FM Intelligent client, FM administration, FM service operator, etc.
*** Feasibility Criteria are subject to the constraints of the organisation and its context. They should be identified and selected by the organisation.

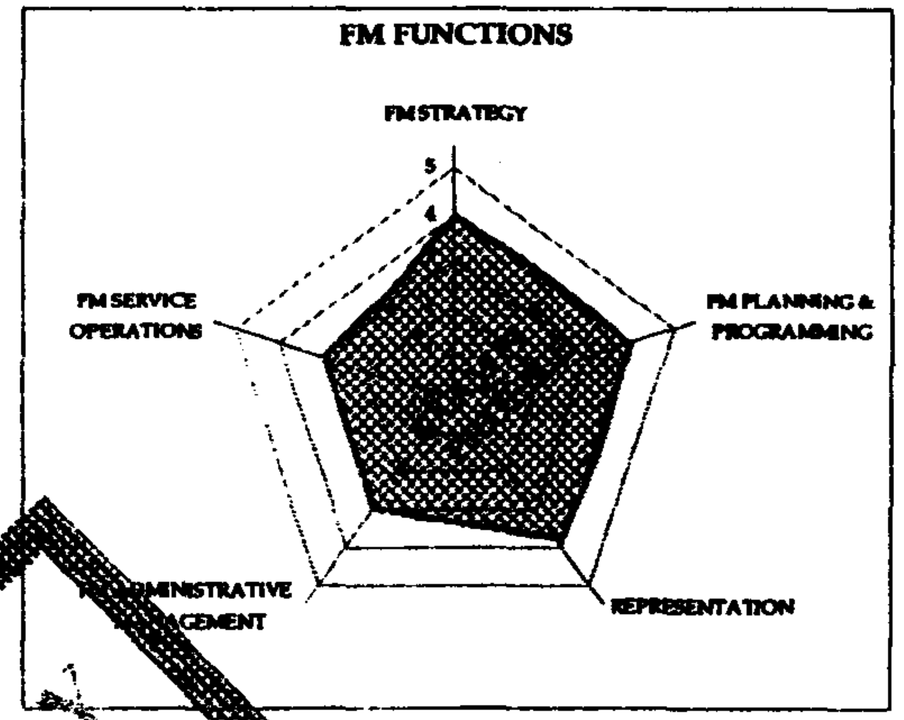
DOCUMENT 3.2: VIABLE OPTION PROFILING

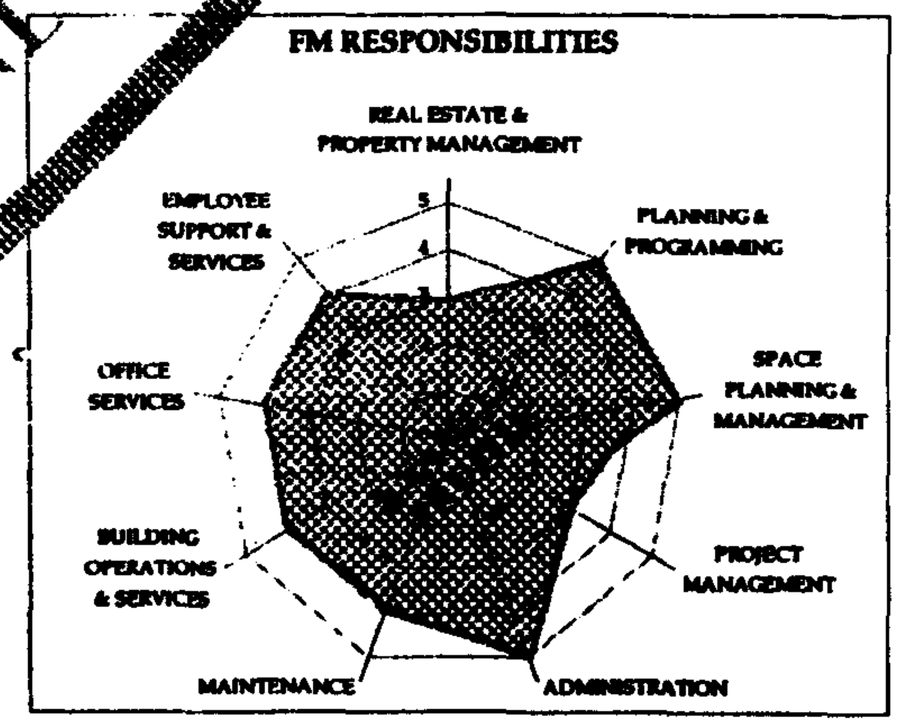
Document 3.2 is for identifying and illustrating the characteristic FM profile for each of the viable options.

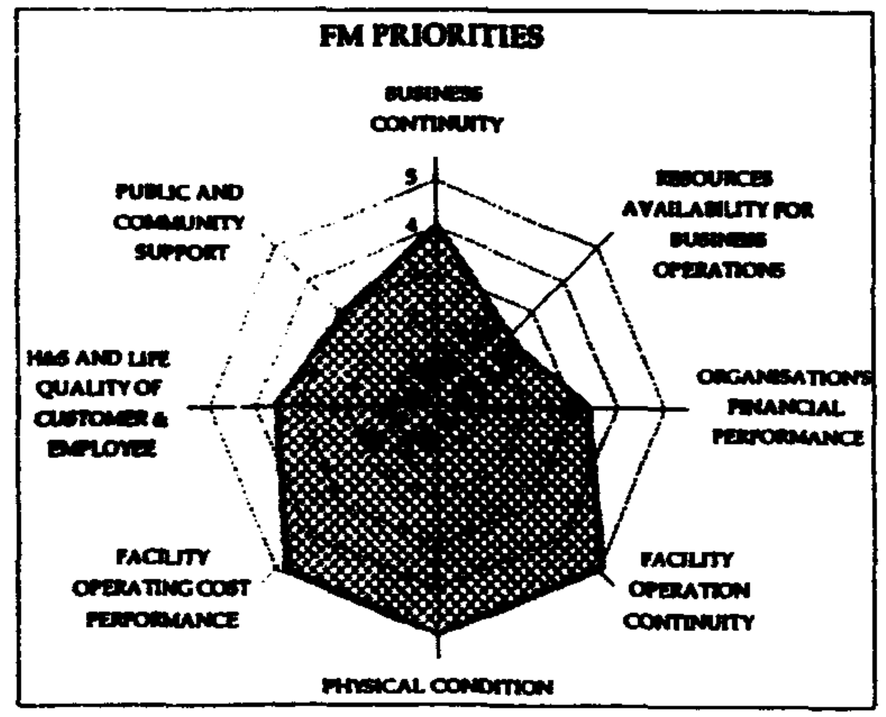
FM Profile Option:	
FM Practice	**Details**
Purpose & Policy	[i.e. the main focus and policy of the arrangement in implementation]
Primary Function & Role	[i.e. the intended function and role of FM, and how the function and role can support the organisation, employee and customer needs.
Scope of Responsibility and Services	[i.e. the coverage of the arrangement in terms of buildings, services, service recipient, etc.]
Structure & Organisation	[i.e. the relationship between FM function and the organisation, and the form of organisational structure is intended to adapted]
Key Issues & Priority	[i.e. the key issues of FM, and how they are prioritised]
Resource Allocation	[i.e. the resources required, number of staff, skill, budget, etc., for the implementation of the arrangement]
Service Delivery Arrangement	[i.e. the source, method and characteristics of service arrangement for each service in details]
Performance Criteria	[i.e. key criteria or indicators that are planned to use to evaluate the performance of the arrangement]
Level of Authority	[i.e. levels of *management authority* and decision making, which are required for the implementation of the arrangement]

FM	PURPOSE AND POLICY	SCOPE & RESPONSIBILITIES	PRIMARY ROLE	MANAGEMENT INVOLVEMENT	DECISION TIMEFRAME	FM STRUCTURE	SERVICE DELIVERY	PERFORMANCE ACCOUNTABILITY
LEVEL 3 COMPREHENSIVE	BUSINESS-ORIENTATED: - Focusing on the alignment of facility resources and services to support business strategy -Managing the integrated business support environment -Optimising business performance, creating value and competitive advantage	EXTENSIVE SCOPE -Covering business infrastructures and integrated support services -Responsible for business customers and internal clients, and property portfolio and facility resources	STRATEGIC MANAGEMENT - The strategic planning and strategic management of business infrastructure and services	HIGH MANAGEMENT -Part of the senior management hierarchy -Integrated linkages with core business strategy -Separate division reporting at board level	- Participation in LONG-RANGE planning, resourcing strategy, investment and development -Typically 3-10 year time horizon concern	HIGHLY INTEGRATED FM ORGANISATION: - Highly integrated FM department covering entire infrastructure/asset planning and management functions	TOTAL FM: - Complete service provided by a single source	BUSINESS-RELATED PERFORMANCE ACCOUNTABILITY: - Use of performance evaluation matrices correlating to organisational/business performance and FM performance.
LEVEL 2 CONSOLIDATED	WORK-ORIENTATED: - Focusing on the coordination of all workplace support to meet organisational and human needs -Managing productive work environment -Maximising facility and service performance	SELECTIVE SCOPE -Mainly covering workplace management and support service procurement -Management of all operational support services -Responsible for employees	COORDINATION - The co-ordination and integration of FM functions and services	MIDDLE MANAGEMENT -Part of the organisation's middle management hierarchy -Reciprocal two-way links with business managers -Reports to a divisional head	- Participation in MID-TERM tactical management of facility resources and services to support medium-term demands, e.g. space planning, maintenance plan, management and contingency -Typically 1-3 year time horizon concern	INTEGRATED FM ORGANISATION: - Integrated FM planning, management and operational department	SERVICE PACKAGES: - Services bought into major groups for effectiveness and efficiency of management	SPECIFIC FM SERVICE PERFORMANCE ACCOUNTABILITY: - Use of FM performance evaluation matrices e.g. facility service efficiency, utilisation rate, etc.
LEVEL 1 BASIC	FACILITY-ORIENTATED: - Focusing on facility conditions and performance -Providing efficient facility operations -Controlling and reducing the operating costs	LIMITED SCOPE -Mainly building services and maintenance -Managing routine facility operations and services -Having limited coverage on facility resources and service	OPERATIONS - Management of routine operations - Delivering basic support services	LOW MANAGEMENT -Part of low-level operational management hierarchy -One-way or administrative linkage with the business manager -Reports to operational business manager	- Only involved in SHORT-TERM decisions, and operational management and day to day support tasks -Typically 0-1 year time horizon constraint	FRAGMENTED FM ORGANISATION: - Separated facility planning, management and operational functions - Partial FM department	DISAGGREGATED: - Services delivered based on individual basis by in-house team or external contractor	GENERAL BUSINESS PERFORMANCE ACCOUNTABILITY: - Use of general performance evaluation matrices e.g. time-target, cost-target, etc.

EXAMPLE PROFILE







DOCUMENT 4.1 OPTION ADVANTAGES AND DISADVANTAGES

Document 4.1 is for identifying the advantages and disadvantages of each short-listed option, and analysing the their robustness based on risks and opportunities.

Options	Advantages	Disadvantages
A		
B		
C		

Risks	Possibility			Opportunities	Possibility		
	Low	Medium	High		Low	Medium	High

DOCUMENT 4.2 OPTION ANALYSIS AND COMPARISON

Document 4.2 is for comparing the abilities of each short-listed option by using a quantitative evaluation approach.

Evaluation Criteria	Weight* (1-5)	Option					
		A		B		C	
		Rating (1-5)	Weighted Score (weight * rate)	Rating (1-5)	Weighted Score (weight * rate)	Rating (1-5)	Weighted Score (weight * rate)
Operational reliability							
Service accountability							
Cost affordability							
Skill suitability							
Legal compliance							
Financial viability							
Sustainability							
Flexibility for change							
Other							
Other							
Other							
Total score (Sum of weighted score)							

Notes:
* The weight of each evaluation criterion is determined by the organisation based on its criticality to the primary operations, 1 (lowest) and 5 (highest).

DOCUMENT 5.1: SELECTION CRITERIA AND DECISION

Document 5.1 is for analysing the short-listed options in the final stage, especially when some of the comparison scores of options (in 4.2) are close.

Options	Option Comparison Score*	Additional Selection Criteria**				Decisions
		Potential to support Business long-term competitiveness	Potential to create Business operation efficiency	Potential to achieve facility user satisfaction	Other	
A		[i.e. how the option performs based on this criterion]				[i.e. how the organisation and facility manager make of this option – why it is or is not preferred]
B						
C						

Notes:
* The option comparison score is derived from the outcome of the option comparison analysis in Document 4.2.
** The above additional selection criteria are examples. Organisations are encouraged to identify other criteria that are important to them specifically, in order to decide which option should be selected for implementation.

DOCUMENT 5.2: CONTINGENGY PLANS

Document 5.2 is for planning the contingency plans based on forecasted changes of the context in any levels.

Change Scenarios	Actions
Operational changes [e.g. operational policy change, facility service supplier change, shortage of suppliers, etc.]	•
Internal demand and supply change [e.g. increase of number of staff, acquisition of new facility resources, improvement of building technology, etc.]	•
Organisational changes [e.g. business merger, business strategy change, organisational policy change, business operation changes, etc.]	•
Context changes [e.g. economic context, legal context, FM market, etc.]	•
Other	•

DOCUMENT 6.1: ACTIVITIES AND ACTION PLANS

Document 6.1 is for planning the activities and actions of the implementation of the selected option.

Implementation Phase identification and Timeframe	[i.e. list of plans, phases and their timeframe of the option implementation] • • • • • • •
Step Activities and Actions	[i.e. the elaboration of activities and actions required during the implementation] 1. 2. 3. 4. 5. 6. 7.
Resource required	[i.e. the resources, such as human, financial, skill, and information resources, required for the implementation] • • • • • • •
Organisational supports and commitments	[i.e. the commitments and supports of business management required for the implementation] • • • • • • •
Other	• • • • • • •

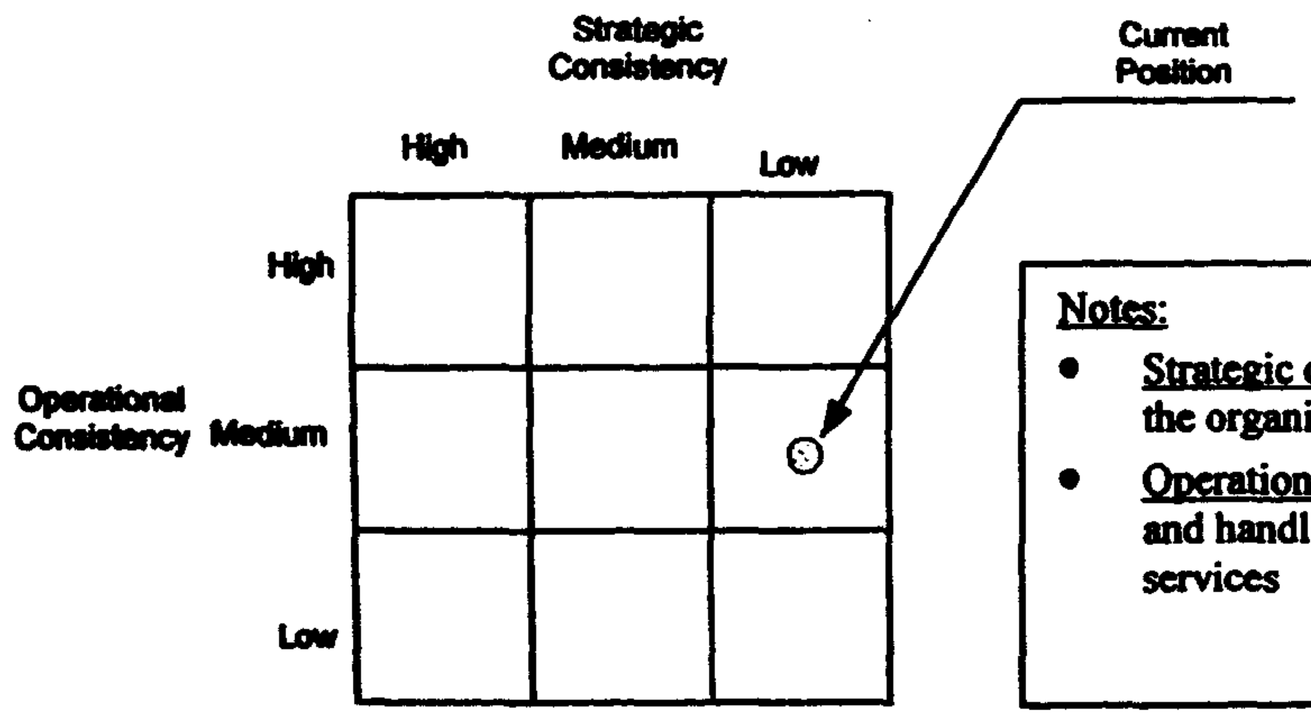
DOCUMENT 7.1 POSITION CONSISTENCY REVIEW

Strategic Consistency Evaluation			Low	Medium	High
Long-term business operations and development	v	FM Capability			
Organisational policy and strategy	v	FM Capability			
Organisational growth or downsizing	v	FM Capability			
Future facility resources acquisition/investment/development	v	FM Capability			
Other					

Operational Consistency Evaluation			Low	Medium	High
Facility size	v	FM Capability			
Facility Features and support services	v	FM Capability			
User needs	v	FM Capability			
Other					

Summary

The following blank matrix of FM performance consistency is used to identify the current position of FM arrangement relative to the characteristics of the organisation and its contexts. The organisation may use the provided matrix of FM positioning strategy to determine its strategy for FM repositioning.



Notes:

- Strategic consistency: the capabilities of the FM arrangement in supporting the organisational business strategies and plans in mid- and long-term
- Operation consistency: the capabilities of the FM arrangement in supporting and handling the facility and operational demands of building and user services

Strategic Consistency

Operational Consistency	High	Medium	Low
High	Maintaining Position	Incremental Transformation	Structural Transformation
Medium	Practice Change	Incremental Change	Structural Repositioning
Low	Practice Transformation	Practice Repositioning	Radical Repositioning

APPENDIX D: Applicability Trial Results

This section presents the primary results of the 'Applicability Trials'. First, it lists the name and organisation of the experts participating in the trials. This is followed by the summary of the expert opinions on the framework and tools capabilities. Finally, it reports the expert comments on each phase of the framework and its tools. Table D(1) lists the name and organisation lists of the trial participants by responding the questionnaires.

Table D(1) List of Trial Respondents

Name	Title	Company/Organisation
Ms. T. Bailey	Civic Centre Manager	Embridge Borough Council
Ms. J. Brooks	Estates and Facilities Division	University College London
Dr. A. Dabson	Former International Director Property Management	MCI
Mr. M. Dowsett	Manager of Facilities Management and Corporate Services	Barclays Capital
Mr. A. Green	Regional Director	Faber Maunsell
Mr. P. Hammersley	Facilities Co-ordinator	KPMG, UK
Mr. C. Latta	Head of Facility Management	British American Tobacco
Mr. M. Loosemore	Director	Property Information Management Services (PIMS)
Mr. N. Peekanont	Assistant Vice President, Administration	HSBC (Thailand)
Mr. K. Sindusek	Facility Manager	Jone Lang Lasalle at Shell (Thailand)
Mr. D. Svenson	Director of Works and Operations	Royal Free Hospital
Mr. B. Vanaptikul	Head of Property Management	Bangkok Bank
Mr. F. Young	Director of Operations, Infrastructure and Procurement	PriceWaterhouseCoopers, UK

The results of indicative comments are summarised and shown in Table 8(1), Chapter Eight, page 185.

Expert Comments

Phase 1: Information Collection

Q 1.1 In your opinion, does the FM positioning information gathering process and tools provide systematic basis to assist in the collection and sorting of essential data for positioning FM?

Comments:

- Good check list. T-1
- It can provide a good basis for generic data collection. T-2
- The framework provides a good understanding of overall processes. The tools provide logical and systematic sequences. T-4
- The key factors seem to be flexible and adaptable. O-3
- Generally it captures all salient points. O-4

- It can assist the data collection and support prioritising requirements. O-5
- There should be more emphasis on gap analysis. E-3
- The process appears to be extremely comprehensive. H-2, C-3

Suggestions:
- It should include political context within legal or market context, consumer requirement and profile. P-2
- Need to put information gathering sheets in to an overall framework which helps to make the process more cohesive. C-2
- It may need more simplification. C-3

Q 1.2 Do you agree that the essential and relevant data and information can be collected by using the process and tools

Comments:
- Generally essential data will be collected. T-1
- Mostly essential and relevant information will be collected. T-4
- It seems comprehensive. O-3, O-5
- It is helpful and systematic. E-3

- It may need adaptation or modification for specific management/organisational characteristics. T-1
- There are some other essential data that should be collected such as the goal of the company. The data collection needs to be concerned with time as well. T-2

Suggestions
- There may be the need to further clarify or sub-topic to make the answer precise. T-4
- It should be aware of the lack of clear organisational documents. O-3
- It should include customer views and expectations, levels of quality/cost of services provided. O-5
- Should the organisational needs include service customers, stakeholders and their requirements? P-2
- It should add legacy issues and assessment or current performance as measured by the core organisation and the consumers of the services. C-2

Q 1.3 Do you agree that the information to be collected by the process will be sufficient for FM positioning? If not, would you please suggest additional data that should be collected?

Comments:
- It can provide tangible information. T-1
- Generally they can provide sufficient information. T-4

Suggestions:
- It may need to include company's vision, mission and strategy that determine FM position. T-1
- The key internal and external factors should be flexible to arrange to fit the organisation in specific context. T-4
- It should include organisational size, location and branding. O-2
- Document 2.1.2 should be aware of the relative differences and importance of business units since they affect importance or expecting of services. O-3
- Document 2.2.1 and 2.2.2 should take more account on the existing state of IT infrastructure and supporting engineering solutions. O-4

- Should try the wider organisational context. P-2
- It should include internal political factors. PR-2
- It may need to add data collection of the morale of the current organisation. C-2
- It would become even more business focused if there was a measure of direct relevance of the data to the business needs. C-3

Q 1.4 Do you agree that the data and information gathering process and tools could be adapted for use across a range of organisations and sectors?

Comments:
- Very good starting point and any organisation can adopt and adapt to fit its needs. T-1
- With small change or development, it can be used for all kinds/types of FM organisation. T-2
- They are generic and adaptable. T-4
- Flexibility is the key, but the supporting guidance needs to be provided to indicate how flexible this architecture is before being compromised. O-4
- Generally adaptable, probably too broad for certain sectors such as healthcare. O-5
- It appears to be time consuming and may only benefit large organisations. H-2

Suggestion:
- Some sensitivity is probably needed to different sector. C-3

Phase 2: Identification and Consideration of Positioning Options

Q 2.1 Do you agree that the FM options consideration process and tools could provide a useful framework for identifying and generating possible FM position options?

Comments:
- 3.1 and 3.2 are very much subjective, but good for general evaluation of current and past situations. T-2
- Generally the tools provide help to organisation to determine possible options. However, the organisation might need additional tools to guide them through and help them on their thinking process - how to transfer strategic issues into options. T-4
- Conceptually the process makes sense, but there is a need to improve 3.1 and 3.2. the FM profiles (priority and relative criticality) would be valuable if there were known correlation between profile and service models. O-3
- Workdocument 3.1 is not clear. O-4
- The information will allow the organisation to identify where the positions are. O-5
- The option identification process seems to omit the involvement of the existing and potential suppliers/partners. E-3

Suggestions:
- A 'status quo' option to act as a comparator to the other options might be helpful. PR-2
- Need to create a range of generated options. C-2
- A measure of the business relevance of an option could be useful to preserve and promote the strategic importance of the right positioning. C-3

Q 2.2 Do you agree that the process and tools will help to agree on feasibility criteria and eliminate infeasible positioning options in order to define a short-list of potential options?

Comments:

- The feasibility criteria can effectively filter out the non-feasible options. An additional suggestion is to provide service focus references or examples to make it more clar. T-4
- Only if appropriate weighting can be determined (4.2) for evaluation criteria. It is always difficulty. The danger is that greater analysis produces more criteria and more complexity. It should be considered limiting number of evaluation criteria. O-3
- It will help organisations to realise where there may be gaps in their processes and set up. O-5

Suggestions:

- Some other factors need to be considered such as business relationship, future development and other benefits, etc. T-1
- The criteria for assessing feasibility should come before considering option feasibility. P-2
- Need to add transition/implementation feasibility criteria.

Q 2.3 Do you agree that the example feasible criteria proposed in WorkDocument 3.1 are useful and sufficient for eliminating nonviable options? If not, would you please suggest other essential feasibility criteria?

Comments:

- 'In any organisations, you can provide the shortlist and recommendation but the management can still select the option you thought was not viable because the management may weight other factors more than you did.' T-1
- The evaluation form is useful and sufficient. The four elements have covered fundamental factors for the considerations. Another criterion to be added could be 'compliance to business direction.' T-4
- The criteria may be redundant at this stage. O-3

Suggestions:

- Workdocument 3.1 needs to be improved in order to get the clearer results. O-4
- He is not sure if the data is sufficient for eliminating nonviable options. The criteria need to be more in depth and cover a more robust decision making process. O-5
- Organisational characteristics should be featured in the feasibility criteria. E-3
- Other feasibility criteria may be stakeholder/customer requirements and the political context. P-2
- Cost and scalability are very important and should be included as separate data items. PR-2
- Plausibility, supportability, manageability, serviceability, sustainability could be benefit from reinforcement. C-3

Q 2.4 Do you agree that the process and tools will assist organisation and facility manager in comparing the potential options, and selecting the preferred option?

Comments:

- The forms provide necessary coverage for comparing and selecting the option that the organisation prefers. T-4
- A valuable addition to this stage would be an overall assessment of the current organisation against best practice - this would help in identifying the areas requiring change. C-2
- A comprehensive collection of tools but the use of the data in aggregate is unclear. C-3

- It helps to focus on the real needs and requirements and identify feasibility. O-5

Suggestions:
- Need more works on the three FM models. O-3
- It needs more detailed work. E-3

Q 2.5 Do you agree that the comparison criteria provided in WorkDocument 4.1 are useful and sufficient for comparing the viable options? If not, would you please suggest other essential criteria?

Comments:
- Most major factors are listed. T-2
- It is useful but a little too simplistic for some. O-5

Suggestions:
- Business relationship, business synergy should be evaluated as well. T-1
- It is similar to SWOT analysis. The workdocuments provide compact and efficient method of comparison. T-4
- Other criteria for comparing the viable options may be the impact on customer, experience/capacity of suppliers. O-3
- There might be need for another box to score identifying criteria for analysis. P-2
- He suggested an internal PEST (political, economic, social and technological) also; with emphasis on the 'P' and 'T'. PR-2
- Too basic – need more science. C-2
- 'Flexibility for change hits the heart of the matter.' He would like to see greater emphasis on the process being cyclical perhaps by using the business planning cycle. C-3

Phase 3: Implementation of Selected Options

Q 3.1 Do you agree that the implementation and development process and tools provide useful and necessary stages for the implementation of the selected FM arrangements? If not, would you please suggest further stages that might be needed to implement the selected option?

Comments:
- The tools provide necessary stages for the implementation, but the table provided for action plans could be structured differently; more detailed table could make it clearer and easier for the information providers and readers. T-4
- At this stage a preferred model or approach has been identified. The key to getting it right is the transition of this into a practical deliverable solution supported by appropriate suppliers/partners. Is there a need for a stage looking at evaluations/selecting service providers? O-3
- It does give a clear path to follow, it makes no allowance for 'gut feel'. O-5

Suggestions:
- Potential/preferred suppliers involvement is needed. E-3
- Should include training and CPD as a single heading. Or, it could be a sub-heading of sustainability. H-2
- Perhaps a rise/use of short-term, medium-term, and long-term planning would help to improve the stages of implementation and weighting. C-3

Q 3.2 Do you agree that the periodic reviews will assist the essential activities for re-examination and development? If not, would you please suggest what other activities should added?

Comments:

- Most of the changes will tend to be external factors than the internal one. T-1
- He agrees that the periodic review duration may vary by the type of services. An appropriate duration of major services needs guideline. T-2
- 'If the FM is judging themselves using this tool and trying to re-examine the strategy, how can their capability to do so be judged?' O-5
- 'I believe that the methodology should perhaps be more explicit about the need identification to go through the gap analysis and if internal/external changes have occurred. E-3
- Do not understand the low/medium/high criteria. C-2

Suggestions:

- User's input would be a good source of information for re-examination and development. T-4
- 'Matrix approach balancing strategic and operational is sensible and could be useful. My practical concern would be that the basis for scoring capability to support strategic change might be knowledge of, and satisfaction with current operational arrangements. O-3
- Keeps the focus on ensuring service continues to meet the operational need. P-2
- The reviews should be continuous. PR-2
- Need to link the 'positioning' to a business planning and budget cycle: 1 year and 3 years. C-3

Q 3.3 Do you agree that the process and tools will provide systematic basis to assist organisation and facility manager in repositioning decision for FM arrangements when the context changes?

Comments:

- The same process and tools can be applied whether it is the new positioning or re-evaluation of the existing position. T-1
- The tools are flexible enough to re-exam when the context changes. T-4
- 'More convinced about value of tools to identify need for change than to provide template for required changes. If it provides the formal and prompts dialogue and debate about the latter. It would still be a valuable process.' O-3
- How can the capability of FM be judged? O-5

Suggestions:

- 'It risks appearing unduly complex. Could it have a high level with key process, and then break down to lower level, supporting, processes?' C-3

Overall Features of the Framework and Tools

Q 4.1 Do you agree that the FM positioning process and tools will provide a useful basis in arranging facility management practice for any given organisation?

Comments:

- This would work in most cases but some modification is still required to fit specific organisational goals, visions and cultural factors. T-1

- The tools are flexible with open questions, but the results are then evaluated with changeable criteria, so they are very practical for any given organisation. T-4
- It is easy to follow and logical/systematic. P-2
- It could see this a useful tool across all business sectors. Public sector may be a challenge. O-2
- A good conceptual framework. If uses to guide process, analysis, debate and decision making, I would judge that it would be valuable. If applied too rigorously I would worry, it would only ever be as good as the people who use it. O-3
- 'Overall is a good and useful attempt to put forward a robust framework that will work in the real world.' 'Overall these tools appear to provide a complete and systematic process.' O-4
- 'Yes, as a first step of the process these tools alone should be used as a part of the process.' O-5
- He thinks small organisations may not find this method of FM procurement cost effective. H-2
- It encourages a systematic and logical approach. P-2
- A great step forward. Could it benefit from a more holistic vision: creation of a support environment meeting the needs of the business? C-3

Q 4.2 Do you agree that the process and tools provide a systematic and logical approach to positioning FM?

Comments:

- Yes, it is systematic approach. O-2
- 'It does allow the FM to consider options and weigh up some of the possibilities in a planned manner.' O-5
- Would be a 5 for some and a 3 for others depending on maturity of FM market. But the logic should always be meeting the support needs of the business. C-3

Q 4.3 Do you agree that the process and tools could be adapted for use in a range of organisations and sectors?

Comments:

- It is flexible and adaptable. T-4
- Maybe a divide between private and public sectors. O-2
- It focuses on the hard strategic issues and not on customer focused services, which often found in healthcare and education. O-5
- It may not be cost effective for smaller organisations in each sector. H-2
- It has sufficient flexibility to allow the adaptation in a range of sectors and organisations. P-2

Suggestions:

- May need to emphasise more the intangible assets to suit those firms for whom money is not priority one. C-3

Q 4.4 Do you agree that the process has sufficient stages? If not, would you please suggest which stages are redundant and/or missing in the process?

Comments:

- The processes are quite detailed and they are divided into steps that can guide the organisation through effectively. T-4

- The process map contained in one page is useful. The conceptual model would, over time, be supplemented with checklists, correlated results, examples, etc. O-3
- 'Potentially a daunting number of stages.' C-3

Suggestions:

- It needs extra tools that allow the FM to undertake customer feedback and requirements, these tools need to be very specific in gathering information that will be of real use in positioning the FM services, not a likes and dislikes list. The tools take no account of environmental issues and corporate responsibility. O-5

Strengths

Information gathering

Process

- The sequences are structured clearly and systematically. T-4
- It is comprehensive. O-2
- A good checklist. O-5
- It is comprehensive. H-2
- Quite comprehensive. C-3

Tools

- The tools provide a good start for organisations in clarifying and arranging the information and key factors. T-4
- It is systematic. O-2
- It will present clear understanding of organisation. H-2
- Comprehensive range of options/headings. C-3

Position generation

Process

- Helpful in trying to determine what levels of services will be provided. O-5
- The clarity of process. H-2
- Main heading identified. C-3

Tools

- It will indicate existing position. H-2
- A good array of tools. C-3

Option comparison and selection

Process

- The process provides thorough analyses for the decision making. T-4
- It is easy to understand and systematic process. H-2
- Sound approach. C-3

Tools

- Relevant criteria used. H-2
- Good use of profiling. C-3

Implementation and periodic review

Process

- It is a good starter. O-2
- It is structured process and easy to follow. H-2

- Emphasis on flexibility for change. C-3

Tools

- Clear process. H-2
- Most stages present and neat mature summary. C-3

Overall strengths of the framework and tools

- It covers all major related data, and can be used for all types of business or organisations. T-2
- It focuses on understanding the business and its requirements. Its strengths include the simplicity of priority and relative criticality diagram, the two-step approach of feasibility analysis with scoring which is sensible. It has simple, easy to understand matrix. It is comprehensive. The checklists and proformas are well presented and appropriate. It is good as a generic approach. It seems to be very concentrated on information gathering and positioning generation stages rather than evaluation and implementation stages. O-3
- Clear, logical and fairly pragmatic/straightforward to implement. E-3
- It is easy to follow and logical/systematic. P-2
- Process: 'I found that the process forced me to think quite hard about my decision making which is precisely its objective. Tools: ' I found these useful as far as they went.' PR-2
- Process: each individual process is logical but they need to be 'jam-up'. Tools: good set of tools. C-2
- Can be used in changing environment. H-2

Weaknesses

Information gathering

Process

- It should have a section to illustrate the gap or relationship between demand and supply to ensure that there are no redundant efforts or missing requirements. T-4
- It relies on the user input. O-2
- Some information may be difficult to obtain. H-2
- Sorting could be simplified. C-3

Tools

- The profiles of requirements and existing support services should be combine together for an easier comparison. T-4
- Reliant on knowledge of person inputting information. O-2
- Many case knowledge of business will allow the process to be simplified, e.g. combining 2.4.2. O-3
- May require significant efforts. H-2
- Not too much help in populating the fields/boxes. C-3

Position generation

Process

- Reliant on accuracy of information. H-2
- Emphasis not strong enough on business relevance/value of position chosen. C-3

Tools

- The simplification of 3 FM models/modes – basic, conventional, and advance, needs to link to market models – TFM, client-led, supplier-led, etc. 3.1 and 3.2 seem adequate but not continue by content/detail. O-3
- Reliant on skills of person undertaking the process. H-2
- An easier route to aggregating the results might help. C-3

Option comparison and selection

Process

- The option generation process is not structured in such a way as to promoted possible innovative solutions. There appears to be no explicit (instruction) of the need to involve suppliers/potential partners. E-4
- Subjective weighting. H-2
- Suggested additional criteria at 2.3, sustainability needs greater emphasis. C-3

Tools

- Too many criteria and over complexity of weighting could make getting clear or reliable results difficult. Need further development. O-3
- Relies on correct criteria being selected. H-2
- Comparison diagrams not clear. C-3

Implementation and periodic review

Process

- Would see this more as a jumping board rather than periodic review. O-2
- Time consuming. It could be difficult if management change and do not buy into the process. H-2
- Use attractiveness of early, quick wins. Align positioning with business planning cycle. C-3

Tools

- The matrix may be too simple. Can strategic criteria be packaged and measured simply as high, med, low, ditto opertional? Need further development. O-3
- It may be difficult in quick changing environment. H-2
- A tactical level between the strategic and operational could help. It can give the internal consistency required by stakeholders. C-3

Overall weaknesses of the framework and tools

- The different organisational characteristics may make it very difficult to implement or apply standard tools to the positioning process. Some information will be subjective. The guideline for repositioning FM needs to be more details. There is no decision tools and guidelines for developing the option. T-2
- It should have a section to illustrate the gap or relationship between demand and supply to ensure that there are no redundant efforts or missing requirements. The profiles of requirements and existing support services should be combine together for an easier comparison. T-4
- Process: 'I found I needed to read this several times before I understood it, when I did, they were fine.' Tools: 'I believe far more emphasis is needed on change, risk and cost information (it might be worth using metrics for these – just a thought)'. PR-2
- Process: there is a need to more clearly link the demand of the organisation for FM and the criteria used to evaluate the positioning options. C-2
- The process and tools are very complex documents. Understanding of outputs and actions required would be a challenge. O-2

Other comments

- 'Positioning FM' needs a clear definition. PR-2
- 'I regard this piece of work well focused and important.' It is important to recognise the relative criticality of FM to an organisation's core business. The framework should include the internal politics and the power base, and the relative wealth of the organisation. PR-2

Suggestions for Further Improvement

- Determining FM position should be concerned with both objective and subjective factors simultaneously. T-1
- Using graphic integrative diagram that includes time may reduce the number of diagram, and create better understanding to top management team for improvement action approval. [improve outcome presentation/exhibition] T-2
- Understanding business needs is fundamental. The real value added is in specifying and implementing the optimum service model. O-3
- More works required to clarify and identify those stages envisaged at stage 3 (identification and generation of FM positioning options) O-4
- The tools will only work with people who have a clear understanding in the knowledge and practice of FM. There is a great use of jargon. It may be over the top for the majority of practicing FMs. O-5
- Needs more clarification for 2.4.1 and 2.4.2. (She suggested) putting the review/agree selection criteria and selection method in stage 4, either with or below the identification and evaluation boxes. P-2
- An on-line version could provide a platform for swift analysis. Intangible assets and the operating and financial review (OFP) need some emphasis. The impact on the business needs to be a common thread throughout and may justify reinforcement. C-3
- The organisational change characteristics should be included for consideration. He suggested that the Boston matrices can be a useful tool as the business market and the relative market share are excellent indicators of business change. / External factors in Document 1.1, the political factors in context in terms of risk and support should be considered. / A 'status quo' option to act as a comparator to the other options might be helpful. PR-2

APPENDIX E: Cross-Case Analyses

This appendix exhibits the detailed analyses of cross-case comparisons in Chapter Six.

Table E(1) General Pattern of Relationships

	FM ATTRIBUTES							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management Involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
ORGANISATIONAL ATTRIBUTES								
Development Stage	[A]1 [A]2 [A]3	[A]1 [A]2 [A]3	[A]1 [A]2 [A]3 [C]1 [C]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[A]1 [A]2 [A]3 [B]2	[A]1 [A]2 [C]1 [C]2		[A]1 [A]2 [A]3
Organisational Policy	[A]2 [A]3 [B]1 [B]2 [C]1 [C]2 D]2 [E]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[A]3 [B]1 [B]2 [C]2 [D]1 [D]2 [E]1 [E]2	[A]3 [B]1 [B]2 [C]2 [D]1 [D]2 [E]1 [E]2	[A]2 [A]3 [B]1 [B]2 [C]2 [D]1 [D]2 [E]1 [E]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2
Organisational Structure		[B]1 [B]2 [D]1 [D]2 [E]1 [E]2		[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	[D]1 [D]2		
Organisational Culture		[B]1 [B]2					[D]1 [E]1	[A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2
Business Operational Strategy	[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]2 [E]1 [E]2	[A]1 [A]2 [A]3 [B]1 [B]2 [C]2	[A]2 [A]3 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2					
Stakeholder Interest	[B]1 [B]2 [D]2	[B]1 [B]2						
CONTEXTUAL ATTRIBUTES								
Economic Conditions	[B]2 [D]2 [E]2							
Legal	[A]2 [A]3 [B]1 [B]2 [C]2 [D]2 [E]2							
Cultural	[A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2							[A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]2 [E]1 [E]2
Market							[A]1 [A]2 [A]3 [B]1 [B]2 [C]1 [C]2 [D]1 [D]2 [E]1 [E]2	

Table E(2) The Pattern of Change

	FM ATTRIBUTE CHANGE							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
ORGANISATIONAL ATTRIBUTE CHANGES								
Development Stage	[A]1➔[A]2 [A]2➔[A]3 [C]1➔[C]2	[A]1➔[A]2 [C]1➔[C]2	[A]2➔[A]3	[A]2➔[A]3 [C]1➔[C]2	[A]1➔[A]2 [A]2➔[A]3 [C]1➔[C]2	[A]1➔[A]2 [A]2➔[A]3 [C]1➔[C]2		[A]1➔[A]2 [A]2➔[A]3 [C]1➔[C]2
Organisational Policy	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[A]2➔[A]3 [B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2
Organisational Structure		[A]1➔[A]2 [B]1➔[B]2 [E]1➔[E]2	[D]1➔[D]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [B]1➔[B]2 [D]1➔[D]2		
Organisational Culture	[B]1➔[B]2 [D]1➔[D]2	[B]1➔[B]2	c [D]1➔[D]2 [E]1➔[E]2				[D]1➔[D]2 [E]1➔[E]2	[D]1➔[D]2
Business Operational Strategy	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2	[A]2➔[A]3 [D]1➔[D]2 [E]1➔[E]2			[A]1➔[A]2 [C]1➔[C]2		
Stakeholder Interest	[B]1➔[B]2 [D]1➔[D]2	[A]1➔[A]2 [B]1➔[B]2 [D]1➔[D]2						[B]1➔[B]2
CONTEXTUAL ATTRIBUTE CHANGE								
Economic Conditions	[B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2							
Legal	[C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2							
Cultural								
Market							[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	

Table E(3) Pattern of FM Arrangement Profile

ARRANGEMENT CHARACTERISTIC	FM ATTRIBUTES							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management Involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
Level 3	[B]2	[B]1 [B]2 [E]2	[A]1 [A]2 [B]2	[A]1 [A]2 [B]2 [D]2	[A]1 [B]2	[B]2 [E]2		
Level 2	[A]2 [A]3 [B]1 [C]2 [D]2 [E]2	[A]2 [A]3 [C]2 [D]2 [E]1	[A]3 [B]1 [C]1 [C]2 [D]2 [E]2	[A]3 [B]1 [C]2 [E]2	[A]2 [A]3 [B]1 [C]2 [D]2 [E]2	[A]2 [A]3 [B]1 [C]2 [D]2	[A]2 [A]3 [B]2 [C]2 [E]2	[A]3 [B]2 [C]2 [E]2
Level 1	[A]1 [C]1 [D]1 [E]1	[A]1 [C]1 [D]1	[D]1 [E]1	[C]1 [D]1 [E]1	[C]1 [D]1 [E]1	[A]1 [C]1 [D]1 [E]1	[A]1 [B]1 [C]1 [D]1 [D]2 [E]1	[A]1* [A]2 [B]1 [C]1 [D]1* [D]2 [E]1

Table E(4) Pattern of FM Profile Change

	FM PROFILE CHANGE							
	Purpose and Policy	Scope and Responsibility	Role	Level of Management Involvement	Decision Timeframe	FM Structure	Service Delivery	Performance Measurement
↑ Move Up	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2	[A]1➔[A]2 [B]1➔[B]2 [C]1➔[C]2 [E]1➔[E]2	[A]1➔[A]2 [A]2➔[A]3 [B]1➔[B]2 [C]1➔[C]2 [D]1➔[D]2 [E]1➔[E]2
No Change	[A]2➔[A]3	[A]2➔[A]3 [B]1➔[B]2	[A]1➔[A]2 [C]1➔[C]2	[A]1➔[A]2	[A]2➔[A]3	[A]2➔[A]3	[A]2➔[A]3 [D]1➔[D]2	
Move Down ↓			[A]2➔[A]3	[A]2➔[A]3	[A]1➔[A]2			

Table E(5) Comparison of FM Emphases

FM FUNCTION	[A]1	[A]2	[A]3	[B]1	[B]2	[C]1	[C]2	[D]1	[D]2	[E]1	[E]2	M
FM Strategy	2	4	2	2	4	1	4	1	2	1	4	2
FM Planning and Programming	2	5	2	3	4	1	4	2	4	3	4	3
Clinent Representation	2	4	3	4	3	3	4	1	2	2	3	3
FM Administrative Management	2	3	5	4	4	3	4	2	5	3	5	4
FM Service Operations	3	2	4	4	3	2	3	5	3	5	3	3

FM RESPONSIBILITIES	[A]1	[A]2	[A]3	[B]1	[B]2	[C]1	[C]2	[D]1	[D]2	[E]1	[E]2	M
Real Estate	2	5	1	1	5	1	4	1	1	1	4	1
Planning & Programming	3	5	2	3	4	2	4	2	3	3	4	3
Space Planning & Management	1	5	3	5	3	2	4	2	3	3	5	3
Project Management	1	5	2	4	4	2	4	4	4	4	3	4
Administration	2	3	5	5	5	5	5	2	5	3	4	5
Maintenance	2	2	2	4	4	3	4	5	4	5	3	4
Building Operations & Services	4	3	4	5	5	3	5	5	3	5	3	4
Office Services	3	3	4	5	3	2	3	1	1	3	3	3
Employee Support	1	1	2	4	3	1	2	1	2	1	2	2

FM PRIORITIES	[A]1	[A]2	[A]3	[B]1	[B]2	[C]1	[C]2	[D]1	[D]2	[E]1	[E]2	M
Business Continuity	1	5	3	3	3	1	4	1	2	1	4	3
Resource Availability	1	5	2	3	2	1	3	1	3	2	5	2
Organisational Financial	1	2	2	2	4	1	3	1	2	2	4	2
Facility Operation	4	3	5	5	5	5	5	5	5	5	5	5
Physical Condition	2	4	3	4	4	3	4	5	5	4	3	4
Facility Cost	2	1	5	3	5	4	4	2	4	3	4	4
H&S and Life Quality	4	2	4	4	4	4	4	3	4	3	4	4
Public & Community Support	1	1	1	4	4	1	1	1	3	2	2	1

Table E(6) Comparison of FM Emphasis Changes

FM FUNCTION CHANGE	[A]1→ [A]2	[A]2→[A]3	[B]1→ [B]2	[C]1→ [C]2	[D]1→ [D]2	[E]1→ [E]2	A
FM Strategy	2	-2	2	3	1	3	9
FM Planning and Programming	3	-3	1	3	2	1	7
Clinent Representation	2	-1	-1	1	1	1	3
FM Administrative Management	1	2	0	1	3	2	9
FM Service Operations	-1	2	-1	1	-2	-2	-3

FM RESPONSIBILITY CHANGE	[A]1→ [A]2	[A]2→[A]3	[B]1→ [B]2	[C]1→ [C]2	[D]1→ [D]2	[E]1→ [E]2	A
Real Estate	4	-4	4	3	0	3	10
Planning & Programming	2	-3	1	2	1	1	4
Space Planning & Management	4	-2	-2	2	1	2	5
Project Management	4	-3	0	2	0	-1	2
Administration	1	2	0	0	3	1	7
Maintenance	0	1	0	1	-1	-2	-1
Building Operations & Services	-2	2	0	2	-2	-2	-2
Office Services	-1	2	-2	1	0	1	1
Employee Support	1	1	-2	1	1	1	3

FM PRIORITY CHANGE	[A]1→ [A]2	[A]2→[A]3	[B]1→ [B]2	[C]1→ [C]2	[D]1→ [D]2	[E]1→ [E]2	A
Business Continuity	4	-2	0	3	1	3	9
Resource Availability	4	-3	-1	2	2	3	7
Organisational Financial	1	0	2	2	1	2	8
Facility Operation	-1	2	0	0	0	0	1
Physical Condition	2	-1	0	1	0	-1	1
Facility Cost	-1	4	2	0	2	1	8
H&S and Life Quality	-2	2	0	0	1	1	2
Public & Community Support	0	0	0	0	2	0	2

FACTOR CODINGS

By adopting the open coding and axial coding approaches, the case investigations have gained useful empirical findings and insights of how and why the facility management are arranged and changed. This section summarised the key findings from the analyses: the factors of FM arrangement and their properties, and the factors of FM changes and their properties. The investigations and analyses indicated that there are many factors concerning facility management arrangements. The factors of FM arrangement and their properties captured from the case studies are summarised and codified in tables below.

Table E(7) Categories of FM arrangement factors

Internal factors	External Factors
1. Organisational state 2. Organisational culture 3. Organisational policy 4. Business operational Strategies 5. Organisational structure 6. Facility type 7. Facility feature 8. Facility tenure 9. Facility condition 10. FM resource	1. Economics 2. Culture 3. Legal context 4. FM market

Table E(8) FM Arrangement Internal Factors

Factors	Properties	Coding
Organisational state	The state of the organisation within the lifecycle: formalisation/inception, growth, maturity, diversification, consolidation, restructuring, etc.	ORG-STAT
Organisational culture	Basic qualitative characteristics such as organisational culture, beliefs, values, internal regulations, social responsibilities, etc.	ORG-CULT
Stakeholder Interest	The interest, benefit and risk of all the parties involving in the organisation, including employees, employers, customers, etc.	STH-INT
Organisational policy	The set of organisation's business and management initiatives including organisational strategies at all levels such as corporate strategy, business strategy and operational strategy, policies, and management statement, etc.	ORG-POL
Business Operational strategies	The explicit/document of mission statements, business goals, forecasts and plans, etc., and The characteristics of the primary operations of the organisation, such as work processes, procedures and practices, office operations, working patterns and activities, key business drivers and/or key success factors, etc.	BUS-STRAT
Organisational structure	The form of the organisational structure, divisions and lines of delegation.	ORG-STRUC
Facility type	The typology of facility resource, e.g. office, retail, healthcare, education, recreation, mixed-use, manufacturing, leisure, etc.	FAC-TYP
Facility feature	Facility attributes including the number and sizes of facilities, their locations and morphology, their technology and amenities, etc.	FAC-FEAT
Facility tenure	The property portfolio characteristics - owned, leased long-term, temporary, etc.	FAC-TEN
Facility condition	The physical characteristics of the site and facility including access, age, condition, physical appearance, physical problems and constraints, etc.	FAC-COND
FM resource	The capacities of FM department including skills, staffs, equipment, etc.	FM-RES

Table E(9) FM Arrangement External Factors

Economics	General condition or state of the national and local economy, including relevant economic indicators, trends, real estate market and labour condition, etc.	ECON-CONT
Cultural contexts	The prevailing attitudes, beliefs, values, tolerance, and preferences within the local, culture and factors affect level of service standard and quality.	CULT-CONT
Legal context	The local law, legislation, codes and regulations that directly impact on facility management responsibilities and procedures.	LEG-CONT
FM market	The capacity of the local facility management market, including services availability, skills and competency of service providers.	FM-MKT

The key factors of FM change are summarised in the following table.

Table E(10) FM Arrangement Change Factors

Factors	Properties	Coding
Organisational state change	The change of organisational state.	STAT-CHNG
Organisational policy	The change of organisational strategies, policies, and management statement, etc.	POL-CHNG
Business Operational strategy change	The change of business focus, strategies, and plans, and the change of the organisational primary operations, such as work processes, procedures and practices, office operations, working patterns and activities, key business drivers and/or key success factors, etc.	STRAT-CHNG
Organisational structure change	The change of the organisational structure, divisions and lines of delegation due to organisational restructuring or reengineering.	STRUC-CHNG
Facility type change	The increase or decrease of facility resource	TYP-CHNG
Facility feature change	The change of facility resource characteristics such as the increase of number and sizes of facilities, their locations, their technology and amenities, etc.	FEAT-CHNG
Facility tenure change	The change of property acquisition type.	TEN-CHNG
Economic context change	The change of General condition or state of the national and local economy.	ECO-CHNG
Cultural context change	The change of prevailing attitudes, beliefs, values, tolerance, and preferences within the local, culture and factors affect level of service standard and quality.	CULT-CHNG
Legal context change	The change of capacity of the local facility management market, including services availability, skills and competency of service providers.	LEG-CHNG
FM market change	The change of the local facility management market capacity, e.g. the increase of service providers, types of service, abilities of service providers.	MKT-CHNG

There are variations of change in each department of FM arrangements. Four types of change actions have been found from the investigation.

Table E(11) Categories of Change

Type of change	Properties	Coding
No change	Remaining the same as previous state.	NO
Modification	Slight change or adjustment	MODF
Diversification	Moderate change	DIVRSIF
Diversion	Radical change	DIVRT

Factors \ FM Practice Elements	FM policy and purpose	Scope of responsibility and services	Function and Role	Level of management involvement	Level of decision-making	FM organizational structure	Service arrangement	Performance framework
Organizational state ORG-STAT	✓	✓	✓	✓	✓	✓		✓
Organizational culture ORG-CULT								✓
Organizational policy ORG-POL	✓	✓	✓	✓	✓		✓	
Business operational strategy BUS-STRAT	✓	✓			✓			
Stakeholder interest STH-INT								
Organizational structure ORG-STRUC				✓	✓			
Facility type FAC-TYP								
Facility features FAC-FEAT		✓	✓			✓		
Facility tenure FAC-TEN	✓		✓				✓	
Facility condition FAC-COND	✓							
FM resource FM-RES								
Economic contexts ECO-CONT	✓							
Cultural contexts CUL-CONT								✓
Legal contexts LEG-CONT								
FM Market contexts FM-MKT							✓	

Factors \ FM Practice Elements	FM policy and purpose	Scope of responsibility and services	Function and Role	Level of management involvement	Level of decision-making	FM organizational structure	Service arrangement	Performance framework
Organizational state ORG-STAT	✓							
Organizational culture ORG-CULT	✓	✓						✓
Organizational policy ORG-POL	✓	✓	✓	✓	✓		✓	✓
Business operational strategy BUS-STRAT	✓	✓	✓					
Stakeholder interest STH-INT	✓	✓						
Organizational structure ORG-STRUC				✓	✓	✓		
Facility type FAC-TYP								
Facility features FAC-FEAT		✓				✓		
Facility tenure FAC-TEN								
Facility condition FAC-COND	✓	✓						
FM resource FM-RES						✓		
Economic contexts ECO-CONT	✓	✓						
Cultural contexts CUL-CONT								
Legal contexts LEG-CONT								
FM Market contexts FM-MKT							✓	

Case C

Factors \ FM Practice Elements	FM policy and purpose	Scope of responsibility and services	Function and Role	Level of management involvement	Level of decision-making	FM organizational structure	Service arrangement	Performance framework
Organizational state ORG-STAT	✓	✓	✓					
Organizational culture ORG-CULT	✓							✓
Organizational policy ORG-POL	✓	✓	✓	✓	✓		✓	✓
Business operational strategies BUS-STRAT	✓	✓	✓					
Stakeholder interest STH-INT	✓	✓						
Organizational structure ORG-STRUC				✓	✓	✓		
Facility type FAC-TYP								
Facility features FAC-FEAT	✓	✓				✓		
Facility tenure FAC-TEN	✓	✓	✓					
Facility condition FAC-COND	✓	✓						
FM resource FM-RES						✓	✓	
Economic contexts ECO-CONT								
Cultural contexts CUL-CONT								✓
Legal contexts LEG-CONT	✓		✓					
FM Market contexts FM-MKT						✓	✓	

Case D

Factors \ FM Practice Elements	FM policy and purpose	Scope of responsibility and services	Function and Role	Level of management involvement	Level of decision-making	FM organizational structure	Service arrangement	Performance framework
Organizational state ORG-STAT								
Organizational culture ORG-CULT	✓	✓		✓	✓	✓	✓	✓
Organizational policy ORG-POL	✓	✓	✓	✓	✓	✓	✓	✓
Business operational strategies BUS-STRAT	✓							
Stakeholder interest STH-INT	✓							
Organizational structure ORG-STRUC				✓		✓		
Facility type FAC-TYP								
Facility features FAC-FEAT	✓	✓						
Facility tenure FAC-TEN								
Facility condition FAC-COND	✓	✓						
FM resource FM-RES			✓					
Economic contexts ECO-CONT	✓							
Cultural contexts CUL-CONT	✓	✓	✓					✓
Legal contexts LEG-CONT								
FM Market contexts FM-MKT							✓	

Case E

Factors \ FM Practice Elements	FM policy and purpose	Scope of responsibility and services	Function and Role	Level of management involvement	Level of decision-making	FM organizational structure	Service arrangement	Performance framework
Organizational state ORG-STAT								
Organizational culture ORG-CULT				✓	✓	✓	✓	✓
Organizational policy ORG-POL	✓	✓	✓	✓	✓	✓	✓	✓
Business operational strategy BUS-STRAT	✓		✓				✓	
Stakeholder interest STH-INT								
Organizational structure ORG-STRUC				✓	✓	✓		
Facility type FAC-TYP								
Facility features FAC-FEAT		✓						
Facility tenure FAC-TEN								
Facility condition FAC-COND	✓	✓						
FM resource FM-RES								
Economic contexts ECO-CONT								
Cultural contexts CUL-CONT	✓							✓
Legal contexts LEG-CONT	✓		✓					
FM Market contexts FM-MKT							✓	

Key Areas of Decisions: Change

Case A

FM Change	Changing Factors		Contextual Change Characteristics		Relative Importance of Facility resources	FM Alignment change	
	Internal Factors	External Factors	Internal	External		Operational Support	Strategic Support
A1 → A2	ORG-STAT BUS-STRAT BUS-OPR ORG-POL ORG-CULT ORG-STRUCT FAC-FEAT FAC-COND	LEG-CONT	Major change on organisation, facility resources, facility concerns	Moderate change on Legal issues	Significantly higer	Higher +	Higher ++
A2 → A3	ORG-STAT BUS-STRAT ORG-POL		Minor change on business operations No change on facility resources Minor change on facility concerns	None	Minor less	Higher +	Lower - -

Case B

FM Change	Changing Factors		Contextual Change Characteristics		Relative Importance of Facility resources	FM Alignment change	
	Internal Factors	External Factors	Internal	External		Operational Support	Strategic Support
B1 → B2	ORG-STAT BUS-STRAT BUS-OPR ORG-POL ORG-CULT ORG-STRUCT	ECON-CONT CULT-CONT FM-SUPP	Major change on organisation No change on facility resources Moderate change on facility concerns	Major change on economic condition Moderate change on cultural context Minor change on FM supplier	Moderately higher	Same o	Higher +

Case C

FM Change	Changing Factors		Contextual Change Characteristics		Relative Importance of Facility resources	FM Alignment change	
	Internal Factors	External Factors	Internal	External		Operational Support	Strategic Support
C1 → C2	ORG-STAT BUS-STRAT BUS-OPR ORG-POL ORG-STRUCT FAC-FEAT FAC-TEN FAC-COND	ECON-CONT FM-SUPP	Major change on organisation and facility reosurces Moderate change on facility concerns	Major change on economic condition Moderate change on Legal issues	Moderately higher	Higher ++	Same o

Case D

FM Change	Changing Factors		Contextual Change Characteristics		Relative Importance of Facility resources	FM Alignment change	
	Internal Factors	External Factors	Internal	External		Operational Support	Strategic Support
D1 → D2	BUS-STRAT BUS-OPR ORG-POL ORG-CULT ORG-STRUCT	ECON-CONT CULT-CONT LEG-CONT FM-SUPP	Major change on organisation No change on facility resources Moderate change on facility concerns	Major change on economic condition Moderate change on cultural, legal, and FM supplier context	Moderately higher	Higher +	Higher +

Case E

FM Change	Changing Factors		Contextual Change Characteristics		Relative Importance of Facility resources	FM Alignment change	
	Internal Factors	External Factors	Internal	External		Operational Support	Strategic Support
E1 → E2	BUS-STRAT BUS-OPR ORG-POL	ECON-CONT CULT-CONT LEG-CONT FM-SUPP	Moderate change on organisation No change on facility resources Moderate change on facility concerns	Major change on economic condition Moderate change on cultural, legal, and FM supplier context	Moderately higher	Same o	Higher ++

APPENDIX F: Revised Positioning Tools

This appendix includes the revised positioning decision tools as discussed in Chapter Nine.

EXAMPLE OF FM POSITIONING TOOLS AND THEIR DOCUMENTATION (REVISED)

CONTENTS

DOCUMENT 1.1: ORGANISATIONAL PROFILE

Document 1.1 is for clarifying the context of the organisation both internal and external.

Key Internal Factors	Sub-factors	Descriptions
Organisational Characteristics	Organisational state	[i.e. the state of the organisation within the lifecycle: formalisation/inception, growth, maturity, diversification, consolidation, restructuring, etc.]
	Organisational culture	[i.e. basic qualitative characteristics such as organisational culture, beliefs, values, internal regulations, social responsibilities, etc.]
	Business resources availability	[i.e. the capacity and scale of business infrastructure, including financial resources, human resources, physical resources, information and intellectual capital, skills and knowledge of staff, etc.]
Organisational Purposes and Policy	Organisational policy	[i.e. the set of organisation's business and management initiatives including organisational strategies at all levels such as corporate strategy, business strategy and operational strategy, policies, and management statement, etc.]
	Organisational Strategies	[i.e. explicit/document mission statements, business goals, forecasts and plans, etc.]
Organisational Processes	Business operations	[i.e. the characteristics of the primary operations of the organisation, such as work processes, procedures and practices, office operations, working patterns and activities, key business drivers and/or key success factors, etc.]
	Organisational structure	[i.e. the form of the organisational structure, divisions and lines of delegation]
Other		

Key External Factors	Sub-factors	Descriptions
Economic context		[i.e. general condition or state of the national and local economy, including relevant economic indicators, trends, real estate market and labour condition, etc.]
Cultural context		[i.e. prevailing attitudes, beliefs, values, tolerance, and preferences within the local, culture and factors affect level of service standard and quality]
Legal context		[i.e. local law, legislation, codes and regulations that directly impact on facility management responsibilities and procedures]
FM market		[i.e. the capacity of the local facility management market, including services availability, skills and competency of service providers]
Other		

DOCUMENT 1.1 (Continued): CONSTRAINTS IDENTIFICATION

This document is for identifying current organisational and contextual constraints, and their possible impacts on FM arrangements and practices.

Organisational Constraints/Limitations*	
Constraint	**Possible Effects/Impacts relating to FM support**
Financial limitation	
Organisational resources limitation	
Organisational policy and culture	
Locational constraints and accessibility	
Facility capability and capacity limitation	
Other	

Contextual Constraints/Limitations*	
Constraint	**Possible Effects/Impacts relating to FM support**
Business competition	
Legal restrictions	
Public infrastructure	
Local market constraints	
Tenure conditions	
Other	

[Note: * The above constraints are examples only. They should be identified depending on the existing conditions and context of the subject organisation.]

DOCUMENT 2.1: PROFILE OF REQUIREMENTS

Document 2.1 is for identifying the requirements for support services of the organisation.

Requirement Categories	Sub-Categories	Support Required			Requirement Description	Priority				
						Low		Medium		High
		Yes	Maybe	No		1	2	3	4	5
Real Estate/Property Management	Real Estate/Property portfolio strategy									
	Lease negitiation, renewal and management									
	Landlord activities and Rent review									
	Leasing and sub-letting services									
	Retail outlets and space renting									
	Location searching and selection									
	Acquisition and Disposal of sites and building									
	Other:									
Construction Project Management	Relocation									
	New Building									
	Building/Facility Alteration									
	Building/Facility Demolition									
	Other:									
Maintenance & Repairs	Facility refurbishment									
	Building shell maintenance									
	Plant/M&E Maitenance and repair									
	Landscape maintenance									
	Other:									
Building Operations and Services	M&E Operations									
	Cleaning and Housekeeping									
	Energy distribution and management									
	Waste disposal & Environment management									
	Pest control									
	Disaster prevention and recovery									
	Health & Safety management									
	Security									
	Other:									
Office services	Office move service									
	Post and Mail distribution									
	Courier services									
	Telephone service									
	Record management									
	Print and Fax									
	Office stationery Storage and distribution									
	Reprographics									
	Reception, Porterage and Telephone operator									
	Public relations									
	Travel arrangements									
	Car fleet control									
	Transportation									
	Business reception and catering									
	Other:									
Planning & Programming	Long-term physical resource planning									
	Mid-term physical resource planning									
	Annual physical resource planning									
	Work programming									
	Physical development planning									
	Facility Planning/Master planning									
	Other:									
Space Planning & Management	Space policy and planning									
	Space configuration and reconfiguration									
	Space allocation, deployment, utilisation and relocation									
	Space use audit and monitoring									
	Churn planning									
	Office allocation									
	Other:									
Administration/ Management	Services management/administration									
	Budget and Cost control									
	Purchasing and Contract control and negotiation									
	Office furniture and stationary provision									
	Other:									
Employee supports and services	Child nursery provision									
	Restroom									
	Workplace nurse/first aids room									
	Recreations/Amenities									
	Catering									
	Residential accommodation									
	Community affairs									
	Employee special services									
	Other:									
Other										

DOCUMENT 2.1 (Continued): OPERATIONAL NEEDS

This Document is for identifying the needs of the business and its operations, employees and customers for facility resources and support services, and indicating the relative importance of facility resources and support services to the business, its operations, employees and customers.

	Facility Resources Requirements [Descriptions of type, characteristics of facility resources needed for business, employee and customer, operations, and special activities]	**Relative Importance** [the indicator of importance of the service relative to business operations, employee, customer, and facility operations]				
		Low		Medium		High
		1	2	3	4	5
General Business Requirements						
Employee/Customer Requirements						
Operational Support Requirements						
Other/Special Requirements						

DOCUMENT 2.2: CURRENT SUPPLY IDENTIFICATION

[A] Facility Resource Identification

Ref. No.	Facility	Description	Address and Location	Capacities			Condition	Special Features	Tenure	Potential other uses and Limitations
				Area (Sq. ft.)		Number of tenants/ occupiers				
				Gross	Usable					
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

[Note: There are a number of established methods that may be applied when undertaking this facility audit, e.g. Building Quality Assessment, Real Estate Norm (REN[illegible]Serviceability Tools, etc.]

[B] Support Service Identification

Area of Support service	Existing Services	Service Arrangement			Service Characteristics						
		In-house/ Insource	Part-sourced	Outsourcing	Recipient Group	Number of Recipients	Duration of service*	Service Coverage**	Level of service Quality		
									Low	Medium	High
Real Estate/Property Management											
Maintenance & Repairs											
Building Operations and Services											
Office services											
Space Planning & Management											
Administration/ Management											
Employee supports and services											
Other											

Note:
* i.e. the timing, duration and frequency of service
** i.e. the number of buildings and/or spaces (Sq. ft.) serviced

[C] FM Resource Identification

FM Resources	Details	Availability/Capabilities			
		n/a	Low	Medium	High
FM Staff	[i.e. number and profile of full-time, part-time, and outsourced staff]				
FM Skills	[i.e. education background, training experience, expertise, specialisation, etc.]				
FM Budget	[i.e. financial budget allocated to FM such as annual operating, replacement and repair budget, and capital investment for facility resource acquisition]				
FM Information Systems	[i.e. facility and services data-base, CAD, etc.]				
Tools and Equipment	[i.e. the characteristics of current hardware and equipment of FM team]				
Supplier Skills/ Capacities					
Other					

DOCUMENT 2.3: GAP IDENTIFICATION

Document 2.3 is for identifying current and future gaps of facility resources, support services and FM resources in order to provide the overview of existing FM arrangements.

	Facility Resources	Support Services	FM Resources
Current Gap			
Future Gap			

Risk and Opportunity Analysis

Key Concerns of FM practice	Risks [i.e. possible risks and failures concerning the issue due to under-performance FM arrangements]	Opportunities [i.e. potential advantages and value that might be arise due to effective and efficient FM arrangements]	Priority				
			Low		Medium		High
			1	2	3	4	5
Business continuity							
Availability of resources and services for business operations							
Financial performance							
Facility operations continuity							
H&S and life quality of customer and employee							
Facility performance							
Physical condition of building and ground							
Public and community relations and support							
Other:							

DOCUMENT 2.4: FM KEY ISSUE AND PRIORITY IDENTIFICATION

Document 2.4 is for identifying and summarising the key issues and priorities of FM and its primary role at strategic and operational levels.

Key Issues of FM	[Descriptions of FM primary issues on resource and support management in short and longer term.] • • • • •
Key Priorities of FM	[Descriptions of FM priorities concerning resource and support management in short and longer terms.] • • • • •
Primary Strategic Role	[Descriptions of conceptual FM objectives and roles in relation to organisation's business strategy and long-term development.] • • • • •
Primary Operational Role	[Descriptions of conceptual FM objectives and roles in relation to organisation's operational requirements and routine needs of employees.] • • • • •

DOCUMENT 3.1 FM POSITIONING OPTIONS IDENTIFICATION AND ELIMINATION

Document 3.1 is for identifying the general characteristics of possible FM positioning options, and analysing their feasibility.

Option	Service Focus*	Priority Function and Role of FM**	Scope of Responsibility			Feasibility Capabilities [Rating: 1 (Very Poor) - 5(Very Good)]				Overall Feasibility	Viable ?
			Facility resources [under FM responsibility]	Support services [list of services included]	Type of Service Arrangement [In-house/Part-sourced/Outsourcing]	Financial viability	Operational support	Market support	Legal compliance		(Yes/No)
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											

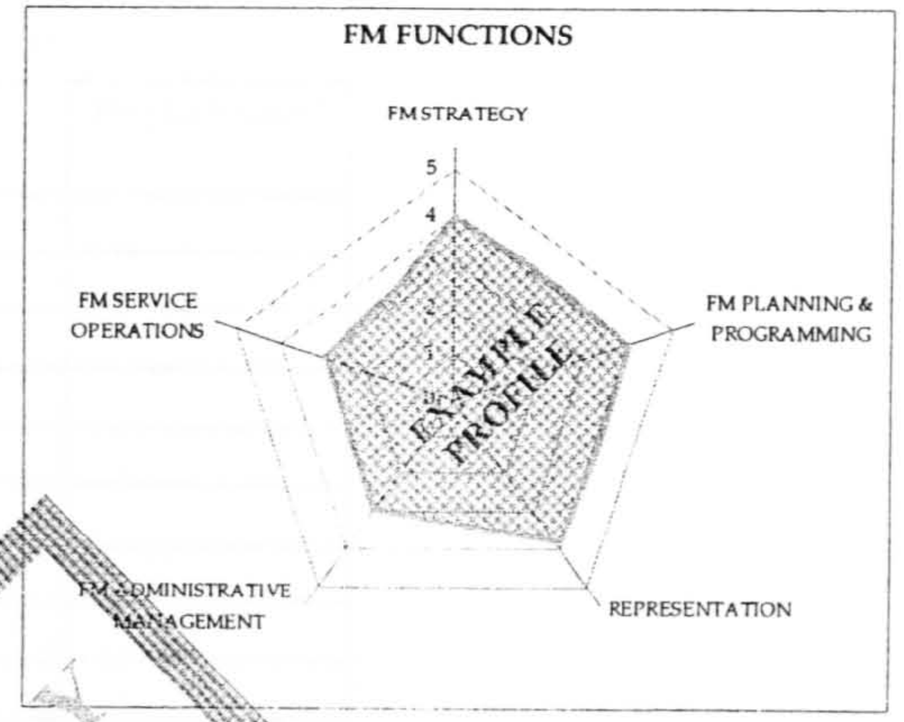
Evaluation: ✓= Feasible; ✗= Not feasible

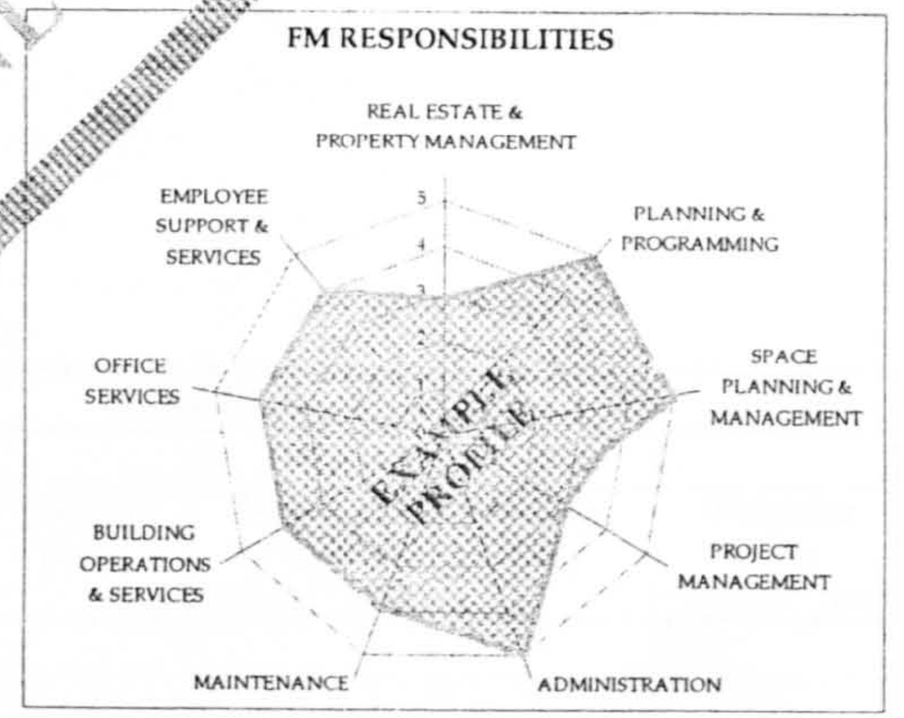
Notes:
*General description of the emphasis and orientation of FM practice, e.g. business-oriented, facility-oriented, employee & customer-oriented, FM performance-oriented, etc.
** Description of priority function of FM, i.e. Strategic FM, FM Planning & Programming, FM Intelligent client, FM administration, FM service operator, etc.

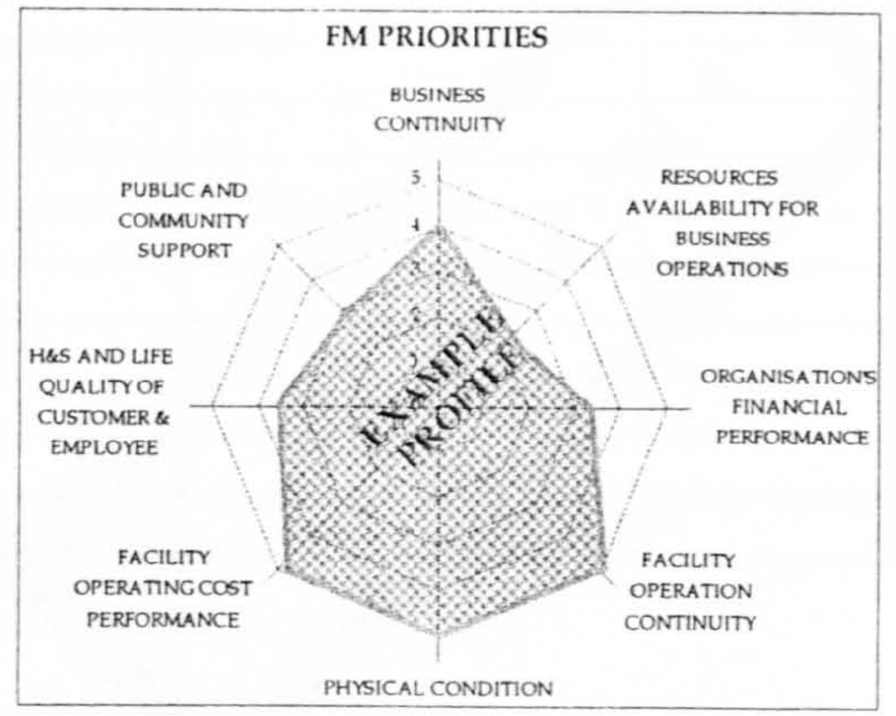
DOCUMENT 4.1: FM PROFILE FOR EACH OF VIABLE OPTIONS

Document 4.1 is for identifying and illustrating the characteristic FM profile for each of the viable options.

FM Profile Option:	
FM Practice	**Details**
Purpose & Policy	[i.e. the main focus and policy of the arrangement in implementation]
Primary Function & Role	[i.e. the intended function and role of FM, and how the function and role can support the organisation, employee and customer needs.
Scope of Responsibility and Services	[i.e. the coverage of the arrangement in terms of buildings, services, service recipient, etc.]
Structure & Organisation	[i.e. the relationship between FM function and the organisation, and the form of organisational structure is intended to adapted]
Key Issues & Priority	[i.e. the key issues of FM, and how they are prioritised]
Resource Allocation	[i.e. the resources required, number of staff, skill, budget, etc., for the implementation of the arrangement]
Service Delivery Arrangement	[i.e. the source, method and characteristics of service arrangement for each service in details]
Performance Criteria	[i.e. key criteria or indicators that are planned to use to evaluate the performance of the arrangement]
Level of Authority	[i.e. levels of management authority and decision making, which are required for the implementation of the arrangement]







FM	PURPOSE AND POLICY	SCOPE & RESPONSIBILITIES	PRIMARY ROLE	MANAGEMENT INVOLVEMENT	DECISION TIMEFRAME	FM STRUCTURE	SERVICE DELIVERY	PERFORMANCE ACCOUNTABILITY
LEVEL 3 COMPREHENSIVE	**BUSINESS-ORIENTATED**: - Focusing on the alignment of facility resources and services to support business strategy -Managing the integrated business support environment -Optimising business performance, creating value and competitive advantage	**EXTENSIVE SCOPE** -Covering business infrastructures and integrated support services -Responsible for business customer and internal clients, and property portfolio and facility resources	**STRATEGIC MANAGEMENT** - The strategic planning and strategic management of business infrastructure and services	**HIGH MANAGEMENT** -Part of the senior management hierarchy -Integrated linkage with core business strategy -Separate division reporting at board level	- Participation in **LONG-RANGE** planning, resourcing strategy, investment and development -Typically 3-10 year time horizon concern	**HIGHLY INTEGRATED FM ORGANISATION**: - Highly integrated FM department covering entire infrastructure/asset planning and mangement functions	**TOTAL FM**: - Complete service delivery by a single source	**BUSINESS-RELATED PERFORMANCE ACCOUNTABILITY**: - Use of performance evaluation metrices correlating to organisational /business performance and FM performance.
LEVEL 2 CONSOLIDATED	**WORK-ORIENTATED**: - Focusing on the coordination of all workplace support to meet organisational and human needs -Managing productive work environment -Maximising facility and service performance	**SELECTIVE SCOPE** -Mainly covering workplace management and support service procurement -Management of all operational support services -Responsible for employees	**COORDINATION** - The co-ordination and integration of FM functions and services	**MIDDLE MANAGEMENT** -Part of the organisation's middle management hierarchy -Reciprocal two-way links with business managers -Reports to a divisional head	- Participation in **MID-TERM** tactical management of facility resources and services to support medium-term demands, e.g. space planning, maintenance plan, management and contingency -Typically 1-3 year time horizon concern	**INTEGRATED FM ORGANISATION**: - Integrated FM planning, management and operational department	**SERVICE PACKAGES**: - Services bungled into major groups for the effectiveness and efficiency of management	**SPECIFIC FM SERVICE PERFORMANCE ACCOUNTABILITY**: - Use of FM performance evaluation metrices e.g. facility service efficiency, utilisation rate, etc.
LEVEL 1 BASIC	**FACILITY-ORIENTATED**: - Focusing on facility conditions and performance -Providing efficient facility operations -Controlling and reducing the operating costs	**LIMITED SCOPE** -Mainly building services and maintenance -Managing routine facility operations and services -Having limited coverage on facility resources and service	**OPERATIONS** - Management of routine operations - Delivering basic support services	**LOW MANAGEMENT** -Part of low-level operational management hierarchy -One-way or administrative linkage with the business manager -Reports to operational business manager	- Only involved in **SHORT-TERM** decisions, and operational management and day to day support tasks -Typically 0-1 year time horizon cononcern	**FRAGMENTED FM ORGANISATION**: - Separated facility planning, management and operational functions - Partiall FM department	**DISAGGREGATED**: - Services delivered based on individual basis by in-house team or external contractor	**GENERAL BUSINESS PERFORMANCE ACCOUNTABILITY**: - Use of general performance evaluation metrices e.g. time-target, cost-target, etc.

DOCUMENT 4.2 OPTIONS ADVANTAGES AND DISADVANTAGES IDENTIFICATION AND EVALUATION

Document 4.2 is for identifying the advantages and disadvantages of each short-listed option, and analysing the their robustness based on risks and opportunities.

Options	Advantages	Disadvantages	Risks	Probability*	Opportunity	Probability*
A						
B						
C						

Note:
* results of risk-opportunity analysis techniques such as Monte Carlo simulation, risk evaluation analysis, etc.

DOCUMENT 4.3 SYSTEMATIC COMPARISON

Document 4.3 is for comparing the abilities of each short-listed option by using a quantitative evaluation approach.

Evaluation Criteria	Weight* (1-5)	Option					
		A		B		C	
		Rating (1-5)	Weighted Score (weight * rate)	Rating (1-5)	Weighted Score (weight * rate)	Rating (1-5)	Weighted Score (weight * rate)
Operational capability							
Service reliability							
Management accountability							
Financial affordability							
Resource availability							
Skill and Quality suitability							
Compatibility							
Flexibility for change							
Long-term suitability							
Potential for improvement							
Other							
Total score (Sum of weighted score)							

Notes:
* The weight of each evaluation criterion is determined by the organisation based on its criticality to the primary operations, 1 (lowest) and 5 (highest).

DOCUMENT 4.4: OPTION SELECTION DECISION

Document 4.4 is for analysing the short-listed options in the final stage, especially when some of the comparison scores of options (in 4.2) are close.

SELECTION CRITERIA IDENTIFICATION

Specific Organisation's Objectives		Specific Selection Criteria	Evaluation Metrics
	⇨	Criteria [A]	
	⇨	Criteria [B]	
	⇨	Criteria [C]	
	⇨	Criteria [D]	

OPTION SELECTION

Options	Option Brief Description	Option Comparison Score*	Capabilities to meet the Selection Criteria				Selection Comments
			Criteria [A]	Criteria [B]	Criteria [C]	Criteria [D]	
A			[i.e. the degree of fit of this option in relation to this criterion.]				
B							
C							

Notes:
* The option comparison score is derived from the outcome of the option comparison analysis in Document 4.3.
** The above additional selection criteria are examples. Organisations are encouraged to identify other criteria that are important to them specifically, in order to decide which option should be selected for implementation.

DOCUMENT 5.1: IMPLEMENTATION ACTIVITIES AND ACTION PLANS

Document 5.1 is for planning the activities and actions of the implementation of the selected option, and planning the contingency plans based on forecasted changes of the context in any levels.

Implementation Phase identification and Timeframe	[i.e. list of plans, phases and their timeframe of the option implementation] • • • • •
Step Activities and Actions	[i.e. the elaboration of activities and actions required during the implementation] 1. 2. 3. 4. 5.
Resource required	[i.e. the resources, such as human, financial, skill, and information resources, required for the implementation] • • • • •
Organisational supports and commitments	[i.e. the commitments and supports of business management required for the implementation] • • • • •
Other	• • • • •

CONTINGENGY PLANS

Change Scenarios	Actions
Operational changes [e.g. operational policy change, facility service supplier change, shortage of suppliers, etc.]	• • •
Internal demand and supply change [e.g. increase of number of staff, acquisition of new facility resources, improvement of building technology, etc.]	• • • •
Organisational changes [e.g. business merger, business strategy change, organisational policy change, business operation changes, etc.]	• • • •
Context changes [e.g. economic context, legal context, FM market, etc.]	• • •
Other	• • •

DOCUMENT 6.1: RE-EXAMINATION ARRANGEMENTS

Document 6.1 is for setting out time frame and key issues for FM arrangement re-examination .

FM Arrangement Review	Performance Issues	How to Measure
Annually		
Periodically* [every:___ yr]		
Specially** [When: _____]		

Notes:
*Periodic review should be determined based on the change characteristics of the organisation and the cycle of its business plan.
**Special review should be stated when the organisation should conduct FM re-examination to cope with unplanned changes.

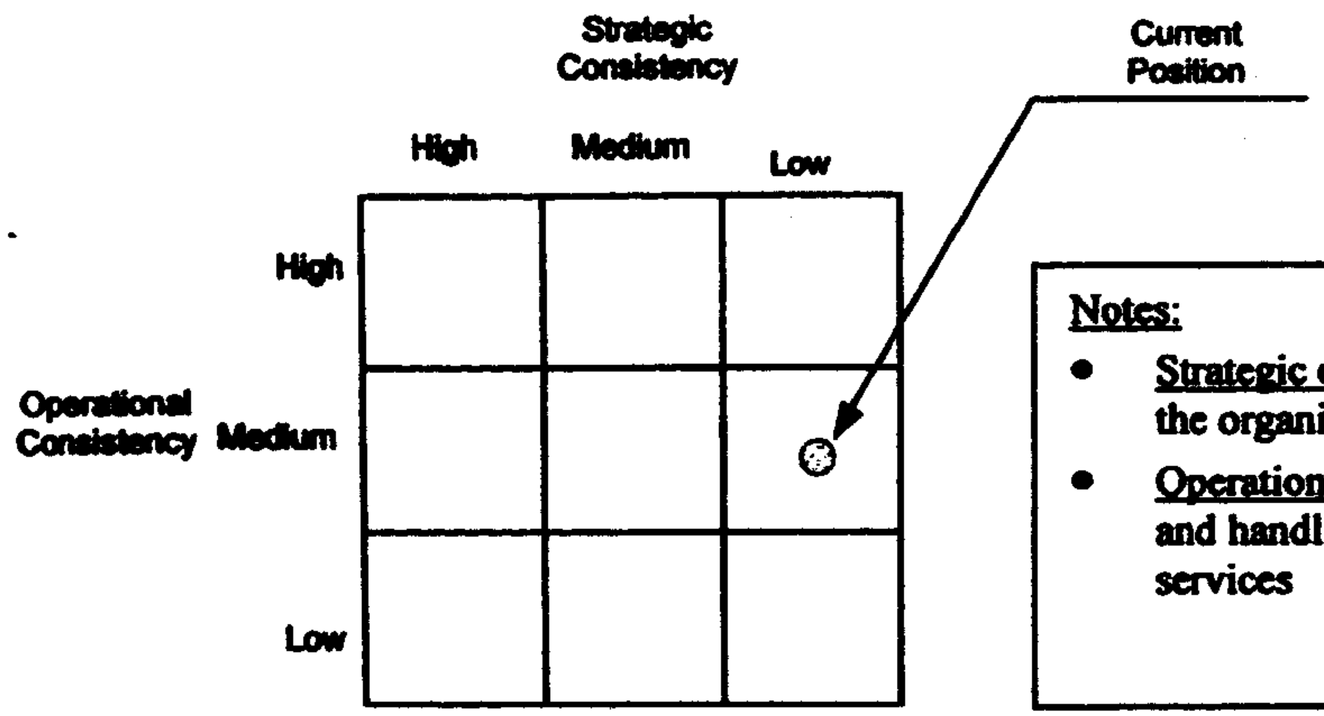
DOCUMENT 6.2 POSITION CONSISTENCY RE-ASSESSMENT

Strategic Consistency Evaluation			Low	Medium	High
Long-term business operations and development	v	FM Capability			
Organisational policy and strategy	v	FM Capability			
Organisational growth or downsizing	v	FM Capability			
Future facility resources acquisition/investment/development	v	FM Capability			
Other					

Operational Consistency Evaluation			Low	Medium	High
Facility size	v	FM Capability			
Facility Features and support services	v	FM Capability			
User needs	v	FM Capability			
Other					

Summary

The following blank matrix of FM performance consistency is used to identify the current position of FM arrangement relative to the characteristics of the organisation and its contexts. The organisation may use the provided matrix of FM positioning strategy to determine its strategy for FM repositioning.



Notes:

- Strategic consistency: the capabilities of the FM arrangement in supporting the organisational business strategies and plans in mid- and long-term
- Operation consistency: the capabilities of the FM arrangement in supporting and handling the facility and operational demands of building and user services